Magma Copper Case Study

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I. Introduction

Ask a former employee of Magma Copper about the company and be prepared to listen for a while -- a good long while -- to someone with a lot of nice things to say. That employee will talk about what he or she did with the company and union, how he or she was glad to have been a copper miner -- one of the most dangerous jobs in the United States -- and even how he or she is a better person for having been with Magma. That employee will no doubt describe a variety of projects and company planning he or she participated in a way that sounds as if the person speaking was an executive vice-president. But, then that same person will also describe his or her work inside a mine, how dirty and physically hard that work was, and how, together with the supervisor they worked on making the job easier to do. That person will go on, describing in ever more detail all that happened at the company and in their jobs, showing a level of excitement usually only seen when grandparents discuss grandchildren. Furthermore, this level of enthusiasm exists even though Magma Copper no longer exists.

The employees of Magma Copper have such marvelous and positive stories to tell because the work they did there was as remarkable and as challenging as they describe. Magma Copper and the unions there developed the kind of partnership that few marriages ever achieve. The company largely accepted the presence of unions, allowing union officers to meet with prospective hires and even commending unions for making much of the improvements in productivity possible. It was a partnership, moreover, that spread from collective bargaining and went onto the shop floor. Supervisors no longer worried about making sure that workers did their job. Instead they began consulting with workers to determine how best to reorganize production practices or even restructure the department. Copper mining was no longer the dirty, horrible work it had been for nearly a century. Now, it was honorable, intelligent work, work that required the involvement of everyone in order to make it better and more efficient to do. This change was because Magma executives believed that any gains in productivity could only occur through the efforts of its employees, and so they had a monumentally important role in company decision-making. Most of the miners had never dreamed of playing such a crucial role in company decision-making, and they took pride in how well they handled that added responsibility. Indeed, employees in several departments completely redid how work was done in various operations and even experimented with alternative schedules to the degree that at one point twenty-hour shifts had been scheduled.

The relationship between unions and company or between workers and managers was not always so cozy and warm. At one time, they were literally shooting at each other. But, some no longer wanted to do such shooting, and they began a process to get union and management representatives talking to each other. Because they recognized that the company and the unions could not survive without an improvement in labor relations, they believed that the relationship between labor and company representatives had to improve so that production problems at the company could be addressed and eventually eliminated. For both sides, this effort centered first and foremost on the people involved: on who they were, what issues divided and united them, and what they wanted out of their respective positions. A committee of union and company representatives took form, and this committee supervised the development of a host of projects where workers and managers joined together in redesigning work processes and even managerial decision-making. Questions over collective bargaining or company profitability, always present, did not stand in the way of first resolving the personal issues that divided the participants. The committee members were not directing the workers in any way but were dependent on the workers themselves to guide them about what was possible in changing current production practices. It was, as one union official described it, the difference between crawling and running.

As these efforts expanded, the cooperation gained an ever-stronger foothold, and the company fostered such efforts through a series of workshops run by two separate groups of consultants as well as the company's own specialized organization development department. No longer could workers at Magma just do their jobs and go home without thinking about anything that happened during the day. Now, they began to recognize, especially since they were paid to go to planning meetings, that they were important people at Magma Copper and that their ideas about their jobs mattered a great deal.

By late 1995, Magma Copper had become tremendously successful -- even a market leader -- and so it became an attractive company to others in the industry. Unfortunately, the purchase of Magma by the Australian conglomerate Broken Hill Proprietary Co. (BHP) did nothing to expand on what Magma had done and even put a halt to what had already been accomplished. BHP executives never felt the need to adopt the alternative management practices to which Magma executives had turned, and a sharp drop in copper prices magnified the Australian company's concern for rationalizing operating costs. While the joint relationship still survived to some extent within Magma's original facilities, it never reached into BHP's other copper operations let alone its metal fabrication, oil exploration and refining, or precious metals divisions. In 1999, as copper losses mounted and BHP corporate management turned over, the copper mines in Arizona were closed.

That sad ending, however, does not reflect on what the workers and managers of Magma had accomplished. The people there attained something no one thought they could, and almost all of them prize the time they spent with Magma. They learned that there are different ways to run a business, ways that feature and value the contributions of people for what they are and can do and not simply what cost-savings they might embody. So, Magma may no longer exist, but its employees are eager to tell its story and perhaps even see another company accomplish what it did.

A. A brief history of U.S. copper mining

Copper mining began in Arizona in 1881 with the opening of the Copper Queen Mine in Bisbee, Arizona. More mines soon opened as new, richer veins of copper were discovered in the desert valleys and mountains of that state. By 1900 over 55 percent of the world's copper came from the United States, and a majority of that copper was mined in the western states of Montana, Utah, Nevada, New Mexico, and Arizona. The majority of these copper deposits were in Arizona.

Since those early years the copper-mining industry has standardized on one product, a cathode -- a roughly three-quarter inch thick sheet of copper around a meter across on each side containing 99.99% pure copper. In its natural state, copper ore usually contains between 0.5% and 5% copper. In the smelting process, it is necessary to eliminate 95 percent or more of the ore brought to the surface in order to obtain refined copper. In old mines like Magma's at San Manuel – where copper mining has been ongoing for nearly a century – the remaining copper ore was of especially low quality. By the 1990s, Magma's mine was on the low-end of the scale, with an average 0.65% copper content.

There are two types of ore in which copper is found, one bonded to sulfides and the other bonded to oxides. The mines at Magma Copper contained both types of ore. Sulfide copper ore is the more plentiful of the two. It usually has a higher copper content than oxide ore as well. But a great deal of mechanical crushing and milling as well as smelting and refining are needed before the finished product emerges. These steps are for the most part highly labor intensive.

Even more labor intensive is the process of extracting ore from the underground mines. Often nearly a half mile deep, the underground mines contain vertical shafts into the earth and then parallel tunnels above and below the veins of ore copper. Miners, called "chute tappers," extract ore by blasting and digging ore on the higher level of the parallel tunnels and shoveling it down chutes to the lower tunnels where ore cars carry it to elevators that raise the ore to the surface for refining. More than 60 percent of the cost of a mining operation like Magma's is found in such blasting, digging, and transporting operations.

Open pit mining also was done at Magma in locations where the copper ore was near the surface. This operation did not require any manual digging of tunnels as giant shovels and trucks scraped away the ore and transported it for smelting. Here the operation was much more capital intensive, with workers accounting for about 20 percent of total operating costs.

Those who work in the mines are remarkable men (and some women). Copper mines are almost all located in remote locations where copper ore can readily be extracted. In Arizona, a state dominated by desert conditions, these mining locations can be quite inhospitable. As a result, during the westward expansion in the nineteenth century few easterners stopped in this area and set down roots. Most of the workers who eventually settled here were Mexican-Americans who had relocated up from the border with Mexico or Native-Americans who had long-term roots in the area. While specific records are no longer available, union and management officials agree that probably 70-75 percent of Magma's production workers were of Mexican or American Indian descent. Until the 1980s, almost all of these workers were men, and few African-Americans or women worked at the mines.

Among the crafts or skilled occupations, however, Anglos were the majority. Historical hiring practices at the mines had tended to slot Anglo men into skilled, craft positions while Mexican men found themselves starting in the unskilled and semi-skilled positions common to mine and smelter work. A 1974 court decision ended such practices, but change was slow.

Even though many of these craft workers had skills recognizable outside the mining companies, their jobs had become so specialized that there was no ready labor market for them outside of the copper mines. Like the production workers, their careers were based entirely in mining. They could switch to other businesses only with a great deal of difficulty and retraining.

Among company managers, Anglo men made up nearly 95 percent of the total. Only among first line supervisors did people of Mexican descent have a significant presence. Mexican-Americans, on the other hand, constituted probably 85-90 percent of the union leadership among the production workers. Perhaps in no industry in America is the ethnic divide in the labor force so pronounced.

B. The making of copper

Copper in its oxide ore is extracted through the use of various chemical agents (i.e. sulfuric acid). To arrive at the finished cathodes, further processing is done through a procedure called solvent extraction and electrowinning ("SX-EW"). The actual processing of the oxide copper ore is the least labor intensive operation of a mine, amounting to no more than 5% of the total extraction costs.

In the course of extracting copper, other potentially valuable secondary products are sometimes obtained. These can include molybdenum and trace elements of gold and silver. At times, depending on amounts and the market price for these metals, their sale may completely cover the cost of the copper mining operation.

The cathodes that emerge from these refining techniques are sold on the commodities market, the New York Commodity Exchange ("COMEX"). Copper producers have no control over the price set in this exchange. The best a copper company can do is offer to hedge its price to a buyer in order to attract business. For example, a copper company could promise a particular valued customer that it will sell 80 percent of an order at the current COMEX price and the rest of the order at 20 percent below that price. With such hedging, the copper company hopes that by the time the last 20 percent of the order is being filled, the COMEX price has declined below the 20 percent markdown so that it might increase its profit. These kinds of agreements assure companies in need of copper a steady supply at a pre-arranged fixed price, while giving the copper producer a mechanism for guaranteeing the sale of its product.

Still, given that the price of copper is set by COMEX, copper companies largely affect their profits by reducing their operating costs and/or expanding their total sales. Copper companies are price-takers, not price-makers – with the exception of the limited hedge pricing arrangements. In this world, companies that can reduce their costs per finished cathode below that of other companies can make a good profit. Those with higher costs see their profits evaporate, especially if COMEX prices drop sharply. Ultimately, high cost producers are run out of business by low cost mines.

A key factor in production costs is the grade of copper ore available to a company. Among U.S. producers, ore grades tend to be low relative to foreign competition. Starting in the 1980s, the expansion of foreign mines with their much higher grade ore put domestic companies under intense pressure to reduce labor costs and expand mining operations. U.S. copper companies used their large size and greater efficiency to counter their competitors' better ore grades.

C. The copper market

Copper cathodes are intermediate goods, bought by businesses for further refinement and processing into parts for manufacturing machinery, pipes, and electrical wiring. In the twentieth century the need for copper has far outpaced domestic production, and increasing imports have made up the difference between the demand for copper and what U.S. companies can produce. Much of those exports, especially in the 1950s, were from mines owned and operated by U.S. companies. Following World War II American copper producers began investing in ore bodies throughout the world. Geological surveys indicated large deposits of high-grade copper ore in Chile, Zaire, and Zambia. Unfortunately for those companies, in the 1960s many of their investments ended up being nationalized by the mines' respective governments. Nationalization, however, did not lead to immediate competition for U.S. producers as these foreign companies lacked the capital and expertise to expand the production capabilities at their disposal. Moreover, with U.S. demand far outpacing supply, there was plenty of room for new producers on a small scale. It would only be when foreign companies began approaching the size and scope of U.S. operation that they began to pose a significant threat.

In the 1980s that threat materialized. Chile, with some of the largest and highest-quality deposits of copper in the world, began increasing the scale of its operations. In 1986, Chilean copper mines produced 1.4 million metric tons of copper ore while U.S. mines fell to the second most productive, at slightly over 1.1 million metric tons. Because of the large new supply of high-grade ore and the low labor costs within the Chilean mines, the bottom dropped out of the COMEX market for copper.

Since the First World War there had always been price fluctuations in the price of copper, and copper companies usually had only to wait the slumps out for profits to return. Yet, this recent slump posed a far greater threat to domestic copper operations. Previous declines in copper prices had largely been because of slight dips in demand for copper. Given the historical trends of generally increasing demand for copper, it made sense for the copper companies to treat such dips in copper prices as only temporary phenomena. When demand returned, prices would in turn rebound. This dip in the 1980s, however, was more a response to increasing supplies of copper than any decline in demand. The South American mines, long known for their low-labor costs and high-quality ores, were now starting to produce large quantities of finished copper cathodes.

Consequently, the softening of copper prices in the 1980s was not a temporary dip but the start of a long term trend. U.S. companies, with much higher labor costs and low-quality ores, would have a difficult time competing with these companies unless they made significant changes in their operations. The question was: what kind of changes would they make.

D. Copper unionism

Labor relations at a copper company today cannot be understood without some knowledge of the long, militant history of copper unionism. As long as copper mines have been in business, copper miners have agitated for better wages and working conditions, especially because accidents and death are such frequent companions to miners. The combination of multiple unions, tough and intransigent mining companies, and equally tough and radical demands from the miners themselves has led to a unique situation where the miners and the copper companies have perhaps been a bit more contentious in their labor relations than other companies and unions. Mining company managers maintained a unilateral right not only to run their companies as they saw fit but also to run the towns and communities around their mines. Workers, even when divided by skill and ethnic differences, responded with their own enmity.

Most of the early efforts at unionization in the late 19th century involved quick mobilizations and strikes that dissipated soon after the action, whether won or not. In 1893, however, several hundred miners from several different mines gathered in Butte, Montana and formed the Western Federation of Miners (WFM). With the mines geographically isolated and nearby towns all too often under the thumb of mine management, these miners were looking to build a united front that could stand against the "copper barons." Only through their combined strength, these miners believed, could they overthrow the companies and create the safe working conditions and better lives they had originally wanted when they had settled in these western lands. The companies thought otherwise and bitterly fought any efforts at organizing the workers.

For the next two decades, various WFM locals won an occasional contract, and the union led several strikes. But, the union could not secure any lasting or company-wide agreement with the copper mining companies. On one front, the WFM faced zealous opposition from copper mining companies, especially in Arizona. These companies immediately dismissed workers suspected of having union sympathies, fueled ethnic antagonisms between Anglos and their Mexican and Indian co-workers, and looked to military intervention from state militia whenever a strike did develop. Behind the battle lines, the WFM faced turmoil within its own ranks. Syndicalist elements within the Industrial Workers of the

World (IWW) -- a partner of the WFM -- opposed any contractual relations with copper companies. Moreover, efforts by AFL craft unions to organize the skilled craftsmen at the mines fractionalized the miners into competing camps so that mining companies could play off one group of workers against another. By 1916, facing an insurrection among the few miners it had managed to organize, the WFM leadership reorganized the union, ousting IWW participants, and realigned the union's purpose along more pragmatic objectives of securing better wages and working conditions for its members through collective bargaining. A new union was born, the Mine, Mill, and Smelter Workers Union (Mine Mill).

At the end of the First World War, the copper industry entered its first recession while the growing "Red Scare" in the nation made union activists a common target of mob violence. Members either gave up on the union or turned to the more militant IWW, still organizing miners and holding fast to its principles of a worker revolution. With the advent of the Great Depression, membership in the Mine Mill union continued to dwindle, so that by 1933 only three Mine Mill locals remained, none of which consisted of miners.

The National Industrial Recovery Act (NIRA), however, provided a clarion call for new members, and many flocked to previously empty union halls. And, while the IWW was no longer around, the Communist Party was becoming a strong political force, especially among the organizers and staff of Mine Mill. Many miners were sympathetic to such radicalism and so flocked to the newly reinvigorated union.

This growth led to numerous jurisdictional clashes with AFL craft unions, especially its umbrella organizing department, the AFL's Metal Trades Department. Unable to resolve these disputes, Mine Mill joined John L. Lewis and the United Mine Workers in 1935 as one of the founding unions of the Committee for Industrial Organization (CIO). During the Second World War, organizational campaigns resulted in representational victories for Mine Mill. By 1945, Mine Mill membership reached 92,000.

Unfortunately for the union, these organizational gains were not complete. Most of the mines it had organized did not include the craft workers who were organized into separate locals affiliated with AFL craft unions. Indeed, the welders, electricians, pipefitters, carpenters, and railroad workers who belonged to these unions outnumbered the workers who belonged to Mine Mill. And, the copper companies did not mind this plethora of union organizations at the bargaining table since it fragmented bargaining, allowing them to pressure one union into signing a deal it could then use as a pattern for the other unions.

Moreover, organizers affiliated with the Communist Party constituted most of the staff of Mine Mill just when other CIO unions were distancing themselves from communist influences, especially in light of the McCarthy hearings. By 1947, with the Cold War in full swing, several locals disaffiliated with Mine Mill, and many of the locals remaining within Mine Mill became the object of raiding from other unions, including the CIO-affiliated union, the United Steelworkers of America (USW). With the ouster of Mine Mill in 1950 from the CIO such raiding became "official" policy. Among western copper mines, however, Mine-Mill remained a potent force, and the USW was less successful in winning those workers over to its banner. Still, the task of always defending the union from such raiding diverted time and energy away from the workers' struggles with the mining companies. Adding to these troubles in 1955 were a series of legal attacks against Mine Mill leadership because of alleged communist influence in the union. None of these prosecutions were successful, but they further drained away precious resources and energy from the union.

By 1966 and thanks to a Supreme Court decision, the question of communist leadership was moot. Yet, Mine Mill leadership was exhausted from nearly two decades of battling, and they had failed to expand the union significantly. The USW, largely unsuccessful in convincing mineworkers to switch union affiliations, approached Mine Mill about a mutual assistance agreement and eventual merger into the nationally leading union. Events proceeded rapidly from that point, and a year later during its January 1967 convention Mine Mill voted to became a part of the USW.

The Steelworkers wasted no time with its new found bargaining position. It immediately formed a coalition of the unions present in non-ferrous mining and fabrication facilities, in which the copper companies were the majority. Such a coalition, the USW hoped, would create industry wide agreements, standardize wages across the industry, and replace the fragmented plant-by-plant, union-by-union contract negotiations that dominated the industry at that time. This coalition, the Nonferrous Industry Conference, led an eight month strike in 1967 that, while failing to secure the industry-wide bargaining it had hoped for, produced a united labor front.

With triennial negotiations in 1971, 1974, 1977, and 1980, the USW and its coalition members in the Nonferrous Industry Conference took a page from the United Autoworkers by targeting one company most amenable to their desired settlement and then using that agreement as the pattern for negotiations with the other copper companies. This strategy was highly effective, as the miners won impressive wage gains and benefits as well as salary increases pegged to increases in the consumer price index. One carryover from the 1967 negotiations remained, however. All of these negotiations took place during strikes, ranging from a few days to several months depending on the employer and the year. One of the most salient was to occur at Phelps Dodge in 1983.

The 1983 Phelps Dodge Strike

The negotiations that year represented a turning point in labor relations at the copper companies -- a return to the old days of company and union fighting to the bitter end. That year, a prolonged strike at one of the largest copper producers in the nation, Phelps Dodge, led to the collapse of unionization within that firm and the return of company-by-company bargaining for the copper industry.

The roots of the 1983 strike can be found in the 1980 negotiations. Soon after the 1980 agreements had been signed, the price of copper plummeted. At the same time, inflationary pressures had led to a rapid increases in workers' wages through the negotiated cost of living allowance (COLA) clause. During the 1980 negotiations, the companies had suspected copper prices would decline and wanted a cap on COLA, one of the main factors behind the union’s demand for a large wage increase. While employers originally planned a united front against the unions in 1980, quick agreement by one company broke the employers' united front and led to agreements on the union's terms for the rest of the companies. The companies signed for two reasons. First, because many of the copper companies were part of conglomerates they had access to outside funding for handling any losses. Second, an extended strike would allow other companies to grab market share at the expense of the closed company.

That setback in contract bargaining from management’s perspective forced companies to revamp their financial and economic planning. Rather than reducing workers' wages, copper companies began closing down facilities and laying off their employees. From 1981 to 1983, workers employed in the mining, smelting, and refining sectors of the industry declined by 14,500 to around 13,500. The rolling and drawing of cathodes did not see as great a reduction, but in 1981alone the number of production workers in this segment of the industry declined by 3,200 from 21,900.

Such reductions, however, could not address the main problem of high labor costs. For the 1983 labor negotiations, Phelps Dodge started planning on a go-it-alone strategy rather than relying on a united employer coalition. So, when the UMW strike against the company began on July 1 of 1983, the company put in place a token workforce of supervisors and either previously laidoff employees or current employees who walked across the picket line. By early August, Phelps Dodge threatened to begin hiring permanent replacements, and miners responded with increased threats of violence against those working in the mines. Governor

Bruce Babbitt called in the National Guard and ordered a ten day closure of the mine so that the conflict might cool down and the parties might reach a resolution. While violence was avoided, no resolution of the dispute was forthcoming, and Phelps Dodge opened the mine to permanent replacements. The union continued the strike for another two years, but a union decertification election during that time led to the ouster of all the unions previously with the company.

This defeat sent a shockwave through all the affected unions. USW leadership of the Nonferrous Industry Conference changed as Edgar Ball, newly elected Secretary-Treasurer of the USW, took over leadership of the conference. Ball brought a new focus to the copper negotiations, emphasizing company-by-company negotiations now that one of the largest copper producers was no longer subject to any contract talks. He felt that the unique structure of the industry and the companies that constituted it foreclosed any across-the-board agreements. Each company had unique problems best addressed in negotiations specific to it.

For the companies, the strike emboldened their bargaining with the unions. During the 1986 labor negotiations, virtually every copper company faced a dire financial future that only concessions from the unions could resolve. All of the mines now demanded deep wage cuts from their production workers and the end of COLA. Facing huge membership losses, the unions largely agreed to such demands across the board. The workers may have been bitter about the defeat at Phelps Dodge, but they still wanted their jobs at a time when all the copper companies were losing money and eager to rid themselves of the unions in their midst. Magma Copper was no different than many others -- that is, until it decided to go a very different route.

II. The need for change at Magma

Magma Copper began operations in 1910 through the successful speculation of William Boyce Thompson and the mining knowledge of George Gunn. Together they purchased an old silver mine in Superior, Arizona, and used that rich vein of minerals and precious metals to start other mines or expand into other areas of business. In 1921, Thompson created the Newmont Mining Corporation, a holding company for this diversified set of assets. At this time Newmont held a controlling 15 percent ownership in Magma. Under Thompson's successors the company continued to expand, investing in oil exploration and gold mining in Africa. Investments in copper mining at the Magma Copper division, however, did not keep pace.

In the 1940s, Newmont executives became concerned about their copper assets and especially the dwindling lifespan of the Superior mine in Arizona once modernization there was completed. Eager to find a replacement mine, they turned to a site in the San Manuel valley, south of their facility in Superior and just north of Tucson. At the end of the Second World War, they obtained financing for the new mine from the federal government's Reconstruction Finance Corporation, and production started in 1956. By 1960, this mine was profitable, and those profits in short order became quite sizable. Unfortunately for the company, Newmont's access to those profits was limited by restrictions that went along with the government's investment in the mine. Newmont remedied this problem by purchasing the rest of Magma's shares, obtaining complete ownership of the company in 1969.

Newmont expanded its copper reserves at San Manuel through the purchase in 1971 of the Kalamazoo ore reserve adjacent to the existing underground mine. In 1981 Newmont also bought up the Pinto Valley Mining Company to add to its copper operations. Newmont continued its expansion into other mining operations, and in the 1980s many of these investments became highly profitable while profits from copper mining, because of a sharp decline in copper prices, plummeted.

In 1987, facing annual deficits of nearly $40 million, Newmont spun Magma off to its shareholders as a separate company, adding to it Newmont's other copper mining subsidiary, the Pinto Valley Mining Corporation, now an open pit mining operation. In short, Newmont exited the copper mining business and Magma was, once again, an independent copper producer.

Magma returned to independence, however, with over $200 million of debt owed to Newmont, and because of needed modernization, it needed to borrow another $300 million. The company used this money to add new capabilities to its refinery and smelter and to install SX-EW facilities in both its underground and surface mines. The SX-EW facilities largely replaced labor with a chemical process for extracting copper from ore and from even previously unusable waste materials. These additions, coupled to a rise in copper prices, led to sizable profits in 1988 and 1989 and the reopening of the Superior mine in 1990 (it had been closed since 1982). An added benefit of all the company's debt was that it immunized Magma from any taxes on its gross profits. The San Manuel and Superior mines were the only two remaining underground mines in operation in the western United States at the end of the 1980s.

The debt still remained, however, in part because of a bonus plan negotiated in 1986 that sent much of the company's profits to its workers. As a result, long-term prospects for the company remained dim at the end of the 1980s. Added to the dire financial situation the company was in after gaining its independence in 1987,was the fact that Magma Copper faced a declining market share. Unlike other domestic copper producers, Magma had retained a sizable export market to the Far East (notably Japan) largely because its facilities were the farthest westward of any copper producing facility. In the late 1980s, however, when the Japanese economy entered a tailspin, that export market dried up. So, at the end of the 1980s Magma was faced with a large amount of debt and the disappearance of some of its more reliable customers.

To become more competitive in this market environment, Magma officials and workers had to find a way to take better advantage of the equipment and resources at the company's disposal. As one of last underground mines built in the twentieth century, the San Manuel facility exemplified a degree of rationalization of the mining and refinement process lacking in other companies started several decades previously. Phelps Dodge, for example, had most of its smelting and refining facilities located at locations separate from its mines. Kennecott and ASARCO also had distinct mining and processing facilities. Magma Copper, on the other hand, had almost all of its copper facilities within 100 miles of each other, and the majority of that property and resources was located immediately on the San Manuel site. This proximity was a great advantage to Magma because of its lower transportation costs of moving ore to the smelter.

Yet, the concentration of facilities at San Manuel and its relatively young vintage did not mean that technology could solve production problems when copper prices began falling from intensified international competition. A technological fix was not possible. Bigger shovels and trucks had appeared in the open pit mine as soon as they were available, but cost-savings were not great. New experiments at automating various facets of underground operations for the most part ended in failure. The extremely tough working conditions prevented most machinery from operating without prohibitively expensive and constant maintenance. Automated trains, for example, rarely lasted more than a day or two before drivers were required again. A special boring machine staffed by outside contract workers appeared in the underground Kalamazoo mine, but union officials accepted that practice because the machinery required skills not available to the miners and the machine largely eased the work of the miners. Only in the smelting and refining shops did new technology lead to improved productivity, but this was a small part of the overall Magma operation in terms of total cost. Mining remained a largely labor-intensive industry, and Magma's productivity ultimately turned on how its employees and managers used the company's equipment.

And, there were other challenges as well. Magma was not free to do whatever it wanted with its mines, as the company and the rest of the copper industry had to contend with increasingly strict environmental regulations. Starting in the 1970s, the copper industry as a whole came under sharper scrutiny from the Environmental Protection Agency for air and water pollution. The passage of the Clean Air and Clean Water Acts in 1970 and 1981(?) respectively brought a growing awareness about the harm pollution causes and an increased examination of mining practices as a result. Because of the large degree of processing required in transforming copper ore into finished copper cathodes, a great deal of water and air is required as well leaving at the end of the process a large amount of excess material. After all, copper ore that contained less than one percent copper meant that more than 99 percent of the earth being mined was mostly waste material.

As a result, companies such as Magma Copper found themselves for the first time having to cope with and resolve the air and water pollution copper mining created. Not only did such efforts increase the cost of mining copper, but it also required the addition of new equipment and refining processes that added to the complexity of producing finished copper cathodes.

All of these factors led inexorably to the conclusion that if a solution to the Magma predicament was to be found, it would have to lie in developing a relationship between the workforce and the company that could improve productivity using the existing technology. What made that so difficult was the long history of labor-management conflict in the copper mining industry. Such conflict was widespread at Magma.

Relations between worker and manager at Magma Copper were never that friendly, and during the 1970s and early 1980s when the company was owned by Newmont, the company and its employees were often holed up in hostile camps at war with each other. For the most part, workers thought Newmont managers were greedy and unethical, and their work on the personal projects of managers during company time and on company payroll only confirmed such suspicions. Employees, for example, found themselves building home furniture, maintaining personal airplanes, rebuilding cars, or refinishing boat decks for various managers. For union leaders, such conduct was especially galling when managers unmercifully dismissed employees for petty theft of copper scrap when such thefts were largely because the workers were desperate to make ends meet for their families.

Other Newmont practices reinforced the conception among employees that they were little better than serfs. Coke machines, for example, were not allowed because employees were not to take time off to drink such beverages, and the company did not want the added expense of cleaning up thrown-away soda cans. United Way campaigners were forbidden from company property, management reasoned, since such campaigns only distracted employees from their jobs.

As a result, when Magma was spun off of Newmont, union leaders were still wary of company management. Fortunately, new corporate leadership at Magma and union leaders who came to understood and appreciate the precarious nature of the Magma's market position would usher in a new day for the company and the unions.

A. Labor-management relations at Magma prior to 1989

In 1987 Burgess Winter become president and CEO of Magma Copper when it gained its independence from Newmont. Before coming to Arizona, he had worked throughout the world at various copper companies, including neighboring Kennecott, and so brought a wealth of experience to Magma Copper. That outside perspective proved to be crucial in allowing for new developments in union-management relations at the company. Brought in by investors concerned about the company no longer under the wing of Newmont, Winter's first concern was to turn the fledgling enterprise into a well-run and profitable mining company. Unlike the previous presidents of Magma, Winter had a more favorable view of the workers in the mines. He felt that cooperation between both managers and workers was essential for a highly competitive company and that without that cooperation Magma would never reach its potential.

One of the managers already there, Marsh Campbell, was like Winter concerned about improving the relationship between managers and workers. He had previously risked dismissal to settle issues with the union, and he firmly believed that honest dealings between company and union representatives were essential to improving the labor-relations climate and hence productivity of the company.

The commitment of these two officials as well as other top managers at Magma to working with their employees cannot be underestimated. Their willingness to try new strategies with union officials and workers created room for new ideas to develop, room that never would have existed if they had not wanted to cooperate with the unions. They understood that the success of the company was different from whatever "success" they might have over union officials or workers, and that their primary goal was the success of the company. That understanding, rare as it is, did not mean that they could not meet the challenges collective bargaining brought them. Rather, it meant that they were smart enough to understand that they did not always have the best answer and that they needed to listen to others and gather as much information as possible if the company was ever to attain whatever the "best" answer was.

On the opposite side of the bargaining table sat a formidable group of union leaders.[1] Most of the leaders of Local 937, the USW local that represented around 85 percent of the production employees at San Manuel, had cut their teeth in the old Mine-Mill workers union before the latter was merged into the USW. Don Shelton started working at Magma Copper's San Manuel mine in 1965 as a bottom rung chute tapper. Within six months, however, he was a vice-president in the Mine Mill local and continued to serve as a union officer after the merger between Mine Mill and the USW. He even served on the Arizona AFL-CIO board for ten years, from 1979 to 1989, serving as President of that body from 1987 to 1989. Throughout the 1980s and until 1991 he served as president of Local 937.

Shelton was a big man with a booming voice and was not shy in using either when trying to get a point across. He was extremely knowledgeable of the contracts between his union and the company and also of those that other unions had with Magma Copper. He was a respected state figure in labor relations, one who had considerable influence among unionists throughout the area.

Bob Guadiana was a second generation copper-miner (his father and other relatives worked at the San Manuel mine), who after having initially hoped for a career outside of the mines, ended up at the Tacoma smelter working his way up the career ladder of the USW to become in 1985 the national union's regional director for the West Coast (covering California, Nevada, New Mexico, and Arizona). Like Shelton he was tall, over six feet in height. But, he did not dominate a room as Shelton did. Rather, there was sharpness to his body and his words, an ability to cut instantly through rhetoric and get to the meat of an issue, that indicated he was more than capable of handling his own with anyone, from those in the grittiest union hall to the highest office tower.

As the Steelworkers' regional director and possessing a background in the copper industry, Guadiana worked closely with Edgar Ball, the secretary-treasurer of the USW, in the company-by-company negotiations that followed the Phelps Dodge fiasco. All of the major copper producers were fervent about getting concessions from the unions -- in stark contrast to their relative passivity in 1983, one of the few years where most copper companies other than Phelps Dodge did not experience a strike. Magma Copper was especially tough, asking for steep cuts

[1] The unions that had local chapters at Magma were the Steelworkers, Carpenters, Boilermakers, Operating Engineers, Transportation workers, Painters, Electricians, Pipefitters, Teamsters, and Machinists.

in wages. Guadiana, eager to avoid a strike most of the copper companies wanted, whittled the cut down to under $3 an hour in return for promised investments for rebuilding the company's smelter and a bonus plan for production workers if the price of copper should increase.

During the 1986 negotiations, the parties also inserted into the labor agreement a memorandum of understanding regarding the establishment of a Joint Union-Management Coordinating Committee ("JUMCC") whereby union and management representatives could meet and iron out their differences. No action was taken on this memorandum at the time.

There had been previous attempts to develop a cooperative atmosphere at Magma. When he first arrived at Magma, Burgess Winter decided to introduce himself to union leadership by "dropping" by the local's office toting a case of beer. Union officials were less than solicitous of this overture. Because no one recognized him and thought some practical joke was being had on them, union personnel at first refused to let Winter through the door. When Winter finally managed to get inside, Shelton, president of the local, informed him matter-of-factly that he could not buy the union off with beer.

Shelton had good reason to be distrustful of such an innocent gesture. Magma's labor relations personnel had for years adopted an extremely hard line against the union. All too often, union officials felt that the company ignored contractual provisions it did not agree with or found inconvenient to abide by. The union found itself time and again enforcing basic provisions of the labor agreement by exhausting the grievance and arbitration process. In light of such hard-headedness, the union and its members responded by sometimes following the letter of the labor agreement no matter how nonsensical or silly. Indeed, workers carried the practice out on the shopfloor by following a supervisor's commands "exactly" as given -- a technique that usually resulted in the task not being accomplished because the commands could not encompass every possible step or detail in the assignment. The production workers called this practice "malicious obedience."

Workers accomplished this malicious obedience quite easily because many managers did not think their workers should do any thinking while on the job. Indeed, many workers simply adopted that management belief as their basic operating principle. "Nobody, virtually nobody working in that workforce ever went to work to get anything done," Shelton explained. "They went to work to collect a paycheck. They just wanted to survive the day."

As a result, as far as most workers were concerned, their immediate preoccupation was their wages and job benefits, and they expected their unions to be just as concerned as they were. In 1986, the wage concessions Magma won from the workers were especially galling because there had been precious little change in how company managers treated them. With new negotiations in 1989, production workers wanted those give-backs returned to their pocketbooks -- especially since the company was profitable in 1988 and 1989 because of the higher copper prices on the COMEX.

B. War declared: 1989

The setting for the new relationship between Magma and its unions came out of a disastrous confrontation between the two in 1989. The start of the year saw an early attempt to negotiate a new labor agreement, but those negotiations went nowhere. The company, temporarily profitable, but still under a tremendous mountain of debt, was realizing little increased productivity from its recently rebuilt smelter. To reduce costs, it wanted an end to the bonus plan and no increase in employees' wages. In sharp contrast, the union wanted the 1986 wage concessions fully restored and the continuation of the bonus plan. So, contract talks were put off until July.

The unions had few concerns about their support among the workers. Local 937 of the Steelworkers had enrolled nearly 80 percent of the production workers in the mines, an extremely high number for a right-to-work state. The crafts unions were not far behind. To be sure, ethnic divisions existed within the locals. There were antagonisms between recent immigrants from Mexico and second-generation immigrants, and union elections were always marked by allegations over how Anglo leaders sometimes ignored issues important to Mexican-Americans inside the mines or how Mexican-American leaders favored those of similar ethnicity over Anglo workers. But, when it came to opposing the company such divisions quickly disappeared. The tough history of miner unionism in the state was usually reminder enough for the workers that they had to remain united if they were ever to succeed against the company.

And, if history was not enough of a reminder, daily events divulged just how important the union was to workers. The Occupational Health and Safety Administration fined Magma $10,000 in early 1989 for an accident that led to the death of one person and the maiming of two others. For those who might not have heard of the accident and the resulting fine, the unions published numerous flyers about the tragedy, flyers that spelled out how union officials had warned the company of the dangerous conditions and how company officials ignored such warnings. For many, this tragedy suggested that whatever the legal structure of the company -- an independent Magma or a subsidiary of Newmont -- workers seemed to matter little.

So, as the summer approached, both the company and the unions prepared for their toughest contract negotiations yet. Both sides began an extensive public relations campaign in support of their bargaining agenda, and each even hired their own firms to manage these campaigns. Advertisements appeared in the local papers, and both sides held various public events to demonstrate both the reasonableness and support they had for their position. The company produced videotapes presenting its side of the company's finances, revealing why wage concessions were still needed. Local 937 of the Steelworkers responded with a public burning of the videotapes and a series of gatherings where union officials explained how the current copper market created plenty of room for wage increases.

Surveys of the workers by both the company and the unions attempted to reinforce the respective bargaining position of each. One union-sponsored survey, for instance, asked "Are your meals slimmer, with more beans and rice, and less meat?"

There was more to these labor negotiations than public relations, however. Realizing that a strike might take place, the company began erecting trailers to house replacement workers. Along with the trailers came security guards from firms in Texas. A special trailer erected at the top of a hill and overlooking the entire mine was to be a lookout and operations point for these security forces. The trailer was never used, however, because two days before the current labor agreement expired it exploded. Regardless of whether the explosion was deliberate sabotage by production workers or the result of poor wiring (unionized workers had installed the electric circuits on these trailers and it was no secret they had not done their best work on that job) or an intentional act by the company for currying sympathy (as some union officials believed), the fireball that lit the sky that night indicated to all that any strike would bring violence. More than once Burgess Winter himself had to call police to his home because of bullets fired through his windows. If a strike should begin, violence was not a threat; it was virtually assured.

Union leaders still had burning in their memories the terrible defeat at Phelps Dodge. There was no question, for them that Phelps Dodge had wanted to rid itself of the unions. What angered the unions most was that the company had emerged from that strike stronger than ever, while the striking workers were penniless and destitute, some even begging for their jobs back and being turned away.

Union officials were determined to not let history repeat itself as far as Magma was concerned. Many felt it would be better to walk away with the company closed and with their dignity intact than accept any kind of labor agreement handed down to them from the "bosses." After all, as far as they were concerned the managers asking for favors from them at the bargaining table were the same ones that wanted the workers to just follow orders and who cut the workers no slack when they needed assistance to pay their bills and keep their homes. And, when the security guards in their trucks ran union officials off the road, the workers' representatives had all the evidence they needed of the company's apparent intentions. USW local president Shelton carried a gun with him not because he planned on attacking company officials, but because he felt there truly was a war going on and he was no longer going to be a victim of the company.

Winter's predecessor, Brian Wolfe, had made an attempt to change the tough managerial style at Magma. Under his leadership, the company attempted to implement Quality Circles among various workgroups. Workers gained an hour to meet and all the donuts they could eat during these sessions for discussing company problems. The company even went so far as to write a song to be sung at company meetings. The song described past production practices as dinosaurs that were doomed to extinction because developing new practices were stronger and better able to adapt to new circumstances and conditions. Among the workforce and even most managers, however, this song and the accompanying efforts at Quality Circles mostly brought endless hours of amusement as well as a new appreciation for donuts. Union leaders were especially critical. They saw these efforts as devices for going around them and building a relationship with the employees directly rather than gaining the union's cooperation and assistance.

Still, for Winter and Campbell, these efforts continued and were genuine if not entirely successful. They believed that workers were not merely a kind of machinery that might rebel and in need of constant supervision and most likely hounding. For these new managers, employees made valuable contributions to the company. As a result, they did not see the unions and the workers they represented as an enemy with whom they were battling. They were trying to save the company, not win a war. A day after the security trailer blew up both sides retreated and agreed to a settlement that partially returned the wage concessions and reduced the copper price bonus from the '86 agreement. The agreement, however, did not end the hostility each side felt towards the other nor did it signal any real break with the past behaviors that had brought the sides to open warfare in the first place. As a result, anger and bitterness still divided both parties.

Not surprisingly, final settlement of the contract did not come easily. Company and union officials refused to be in the same room with each other for final negotiations. At the hotel where the negotiations were being held Guadiana literally had to go from one room to the other conveying proposals back and forth until final agreement could be reached. As one union president described his feelings toward company managers after the new labor agreement was signed: "I hated them. I had no respect for them."

III. The start of the joint process at Magma

One surprising part of the final 1989 labor agreement was the continued inclusion of the JUMCC memorandum of understanding from the 1986 contract. As was evident from the recently settled negotiations, union and company officials had little if anything in common, and no one at the time thought they might be jointly resolving issues any time soon. Even more surprising, the company funded such an initiative with $10,000 when the previous proposal had gone without any funds.

Guadiana had agreed to the JUMCC provision in the 1986 agreement because of the Steelworkers' previous experience with the Experimental Negotiating Agreement in the 1970s. While such an agreement became widely known for the trade-off between its no-strike provisions and automated wage gains that matched increases in the consumer price index (gains that during the rapid rise in inflation made steelworkers some of the highest paid industrial workers in the world), also included the beginnings of joint discussions both at the local and national bargaining tables. Throughout the 1970s a host of issues beyond wages such as changes in seniority rules and rules governing the introduction of new technology still had to be resolved. For the first time, union and company officials began to reconcile their disagreements through mutual recognition of their needs rather than attempting to force agreement on the other party through brute force.

The collapse of the steel industry in the early 1980s erased much of the reciprocity that had developed between the USW and the companies. Still, a few companies continued to rely on a close relationship with the union in order to stay competitive in the new post-collapse climate. Under USW President Lynn Williams, these efforts expanded into Labor-Management Partnership Teams ("LMPT") whereby steelworkers gained a valuable voice in a company's everyday decision-making. In these LMPTs the relationship between the company and the union further evolved into one where not only was each party cognizant of the other's needs but a measure of authority for meeting those needs was beginning to be shared. These LMPTs offered a highly structured mechanism for communicating joint company and union desires to the workforce at large, signaling a degree of power-sharing between union and company not at all common at most companies. What the LMPTs failed to do, however, was provide a fully open forum for workers and managers on the shopfloor. While good for opening up communication between union and company officials, an LMPT offered little change in how workers on the shopfloor were treated, an issue Guadiana and Campbell were most interested in affecting. For them, an LMPT was a good start, but the effort at bridging the barriers between employees and their employer had to go beyond what the LMPT promised.

Like Campbell, Guadiana was also worried about Magma's economic future. Despite rosy reports to stockholders in 1988 and 1989, the company might likely not survive to negotiate another contract in 1992 unless something was done soon. In 1989 the company was nearly $200 million in the red and productivity gains were not nearly where they needed to be if the company was to remain competitive. If nothing was done soon, the 1992 negotiations would be a repeat of what had just happened. The only difference would be that the company would be adamant about getting concessions. To avoid that future, Guadiana believed that something needed to be done about productivity. But before productivity questions could be addressed, the overall relationship between the unions and the company had to improve. There needed to be some mutual understanding between the two, some cooperation about working together so that the complicated problems associated with improving productivity could be addressed.

Guadiana had known Marsh Campbell, the chief negotiator for Magma from Campbell's previous position at Duvall. The two had developed a good working relationship that allowed them to resolve disputes before they ended up in the grievance process. Guadiana believed that the development of a joint relationship patterned after what happened with the LMPTs offered at least the potential of getting Magma and its unions out of the quagmire in which they found themselves. At a minimum such an effort could not make the already strained relationship worse. And so, he and Campbell agreed to a minimal amount of funding to give this effort a chance. Both felt that such an effort would most likely end in failure, but with nowhere else to go but up they reasoned that they had little to lose on the initiative.

So, after the 1989 contract negotiations had ended, Guadiana and Campbell met to discuss what they could do under the JUMCC provision in the new labor agreement. Both agreed that an outside consultant was needed because neither party by itself was currently willing to talk with the other let alone sit down and jointly resolve issues. Moreover, both agreed that the initial attempt at building that trust would have to be through some kind of retreat where representatives of both the company and the union could talk to each other on neutral ground. It would be up to this third party to manage this meeting in order to break the ice between union and management officials. How that trust would actually develop neither man knew.

Guadiana, busy with issues relating to all the USW locals in his region, left the initial selection of the consultant to Campbell, who had previous experience working with the firm of King, Chapman & Broussard. Bob Mueller, a King, Chapman, and Broussard senior consultant, had previously worked at Ford Motor Company developing employee involvement and "change" programs in the 1970s and served as a facilitator for the creation of mission statements and team values for various production units in the 1980s, including the Team Taurus project. At King, Chapman & Broussard he specialized in creating and assisting in the development of union-labor management partnerships.

After Guadiana checked the firm out through his own sources and after interviews with a few other consulting firms, he and Campbell agreed to proceed during the first week of August 1989 with an interview between a few select union officials, company representatives, and principals from King, Chapman, & Broussard. At Newport Beach, California, company and union representatives met Charlie Lewis, president of the local at a Mannville Corona Fiberglass plant and great nephew of United Mine Workers president John L. Lewis. He described how the previously moribund plant had made great strides in improving plant productivity and the worklife of the people there through the facilitation of Bob Mueller and King, Chapman, and Broussard. After hearing Lewis's testimony, the invited parties discussed where they currently were at in their relationship and how their bitter animosity could lead to their mutually assured destruction.

That meeting impressed on both the unions and the company about what a joint relationship could achieve and what the consultants at King, Chapman & Broussard could do if given the chance. Still, neither side looked to working with the other at any time soon as some of the key managers and union officials had not participated in the California meeting. Shelton, for example, was away on vacation during that meeting and was furious that it was held without his knowledge. He immediately phoned Guadiana and demanded to know why he was selling out the workers at the mine. Guadiana pointed him to the recently signed labor agreement and its memorandum of agreement on the JUMCC and explained that the prior meeting in California as well as upcoming meetings were efforts to put that JUMCC provision into practice. Guadiana knew that without explicitly including this effort in the labor agreement union officials would never go along. But, once a provision was included in the agreement union officials' sense of honor and belief that they were better than company managers would encourage them to follow through on the provision no matter how distasteful they originally believed it to be.

Indeed, Guadiana had already been working with Campbell and the consultants on a retreat for company and union officials. This retreat would take place on neutral territory and so keep the participants away from the immediate concerns and distractions of the mine. Guadiana and Campbell wanted this meeting to serve as the beginning point for more cooperation between the company and the unions, and so it would be here that general principles for how the two sides would deal with each other would be drafted. It was up to Mueller and the other consultants at King, Chapman & Broussard to figure out how this meeting would work.

Eventually, it was settled that this meeting would take place over two days in October in Scottsdale, a resort community east of Phoenix and about a two hour drive north of Tucson. It began with a cocktail party that had all the hallmarks of a bad high school dance. Union officials lined the wall on one side of the room while managers lined the opposite wall. Occasionally someone ventured into the middle where the bar was relocated to refill a drink, and the consultants along with Campbell and Guadiana attempted to bridge the gulf but nothing seemed to work. Everyone in the room could see how uncomfortable each of them was with the other. As one participant described that meeting, "there was thirty years of anger in that room." After an hour of staring and whispers each side went out to dinner on its own. The consultants joined the union officials to see how they might overcome the silence between the parties.

The next morning started off with every one pairing off, one union official to one manager, with the assignment of listening and writing down what the other said about worker-manager relations. The consultants provided some ground rules for these interviews, namely that no personal attacks should be made and that no one could interrupt or prevent someone from speaking. After the interviews were over, each pair reported on what transpired, and the consultants wrote down the comments on sheets of paper that lined the walls. For the first time that any one in the room could remember, union and management officials could talk to each other and be heard, something they could never do during collective bargaining negotiations. Contract talks had been filled with people taking positions in trying to accomplish a bargaining agenda. Now, there was no agenda to the conversation except to hear what the other person was saying.

After lunch, the parties returned to a room covered in comments from both union and company officials. What surprised both sides was that they largely had the same concerns about the mine, about working conditions, about the union-management relationship, about the future of the company, and about the place of workers in the company. No "union" or "company" labels had been attached to what was recorded on the walls, and the participants discovered not only that they shared common concerns but that they also were repeating each other.

To some extent, union officials had always been concerned about whether Magma was profitable or not. They understood the basic economic idea that if the company closed down there would be no jobs for the workers in those unions. But, before this meeting the company had always insisted that company profits was its concern alone and that the unions had no business there. Now, union officials were not only being invited to worry about the company's economic future, they were being asked how that future might improve. For the union officials present, this new consideration offered them the opportunity literally to emancipate themselves from their previous existence. They were not abandoning their concern for the workers at the mine nor did they believe they were carrying water for managers. Rather, the felt that the adversarial and hierarchical relationship of workers below and managers on top was no longer the only aspect to their relationship. In this setting they were equals, united in common purpose, and that feeling was so brand new many had no idea what to do with it.

That night, rather than going their separate ways, union and management officials went to dinner together and continued the conversations started that afternoon. No one cared who paid for the dinner or who sat next to whom. It was a strange time for those who only a few months previously were wrestling with the notions of hired security, the brandishing of firearms, and bomb scares. As Mueller explained, the antagonisms that had existed for so long between these two groups of people were being burned away.

For these men, the conversations in that room were the first time that they could discuss the workplace conditions honestly. Grievances had for the most part become little more than procedural mechanisms that people blindly followed because there was nothing else that usually could be done. Now, for the first time they could break out of the procedural straight jacket of collective bargaining and grievance processing and talk about the concerns that lay behind their posturing and table-pounding. The posturing that had previously cloaked the interactions between company and union officials was no longer needed.

The next morning the meeting opened with Winter acknowledging how the company had treated its employees wrongly in the past. He believed such an action was a simple outgrowth of what was happening at the meeting. Union officials and even some managers at the tables were shocked at such an acknowledgement, however. They now understood that this effort was not a passing phase or some kind of gesture meant to keep union officials happy for a short while. The company and the unions were going to share together to some degree the responsibility of running Magma Copper. For the union officials in the room, the door was cracking open, however slightly, to the idea that they could have some influence on management decision-making.

Some of these union leaders eagerly anticipated such joint responsibility. They believed that only by gaining some authority within the company could they fully represent the workers in the mines. Wage gains meant little if the company should close, and recent stalemates in contract negotiations and grievance handling demonstrated just how futile such efforts were at settling the underlying disagreements behind those disputes. Rather than running from the responsibility of joint-management they embraced that idea.

Still, other union officials were less eager to embrace joint responsibility with the company. The battle scars and resulting animosities were too deep to just disappear. Yes, these leaders admitted, the new communication avenues established at this meeting were new and remarkable. All the people there had gained a new sense of respect for each other, and all had gained the ability to discuss simply and forthrightly what was at the heart of their concerns. But, these union officials did not believe the lying and subterfuge of the past was forever gone. Shelton, president of the steelworkers local, mostly saw this meeting as paving the way for cleaning up the grievance machinery so that real complaints could be heard and resolved. Such a change would represent a significant turn from past practices and so was plenty to take back to the members as a success from this meeting. Anything more was probably ill-fated.

Hence, when Winter issued his apology for the company's past labor relations, Shelton stood up and challenged him, declaring that such an apology was not worth much unless the company committed to operating with honesty and integrity from after this meeting and in all its operations. In light of the discussions over the previous day and a half, that requirement now meant something quite real and difficult to the people in the room. That challenge, attendees realized, meant they had to change how they operated: to build on the frank discussion that had been taking place and make such discussion an everyday part of their responsibilities to the company and its workers and also to each other.

Shelton did not think he was ready for such a change, and he believed others at the meeting agreed with him. But, Winter surprised him by answering this challenge. He explained that he could do what Shelton asked and that he would make sure that everyone in the company's management followed that same agenda.

What exactly these new practices meant was still up in the air, however, by the time the meeting broke up for lunch. Guadiana and Winter went off by themselves to work out the principles behind this new sense of trust and cooperation. That afternoon, after examining language from agreements at National Steel and from agreements associated with ALCOA, the two emerged with a set of principles for how workers and company officials would deal with each other in the future. These principles discussed how both parties wanted an economically viable company, how productivity was tied to job security, how honesty and fairness was needed by both sides, and how a joint relationship was the path for provide that honesty and integrity. In agreeing to these principles, the unions were making a sharp break from their prior emphasis on simply looking out for their members' interests come-what-may happened to the company. In turn, the company was also sharply breaking its past when it committed itself to protecting the job security of its employees. Each person in the room was asked if he could stand behind them. When his turn came, each said yes.

The first challenge to this relationship occurred on Monday when those who had attended the Scottsdale meeting jointly handed out 4,000 copies of the resolutions from that meeting. Both employees and managers were shocked to see this cooperation, as evident by some losing control of their vehicles and driving off the road in disbelief. Both workers and managers cursed and threatened those handing out the leaflets for betraying their respective cause. Managers accused their brethren of giving away the plant while workers charged their union leadership with selling them out. Needless to say, reaction was less than what the participants had hoped for.

Both sides had planned for some animosity in developing this joint relationship, and both had agreed that the meeting they had been a part of needed to be replicated for all union representatives, supervisors, and managers at Magma Copper. The chance to sit down and learn what others were thinking was invaluable. But, the experience of sitting down together without animosity or the need to prove some issue to the other -- worker and manager side by side -- was perhaps even more important. So, starting in November and lasting for the next eight months, the company rented out meeting space at SunSpace (the future location of Biosphere 2) where groups of 50 to 100 workers and managers went through the same two day meeting that had taken place at Scottsdale. Around 700 employees attended these team-building meetings. Winter and Guadiana kicked these meetings off by discussing the importance of cooperation at the company. For managers, Winter also pointed out that the company was fully committed to this program -- that there was no going back to the old relationship -- and that managers not comfortable with this new relationship should probably find jobs someplace else.

Indeed, within a few months of the Scottsdale meeting the Vice-president of Operations at the mine had left via "retirement," and nearly two dozen others, ranging from senior management to departmental heads, would leave or be reassigned within the company over the next year and a half. These changes included the General Manager of both the Pinto Valley and Smelter operations as well as the General Manager for Maintenance. By the end of 1991, estimates ranged from one-fifth to two-fifths of the company's core management had been replaced.[2]

Those managers remaining with the company were not left to fend for themselves in developing this joint relationship. Besides managing the sessions at SunSpace, the consultants from King, Chapman & Broussard also immediately began developing a year long course for company managers. This course was designed as a more extended discussion of the new kinds of leadership that were now required from company managers. As Winter explained in a company publication, "most of them had come up through the ranks and only knew the adversarial way of doing business. Now, we were asking them to become different kinds of supervisors -- facilitators, coaches, and suppliers of resources." Because these managers still had a great deal of traditional authority at their disposal, there would be a strong temptation to return to that old authority and "boss" workers around rather than working with the employees through collaboration. If workers were going to fully contribute to the joint relationship, then they needed to know that managers were going to be as open as possible to their ideas by acting on them immediately.

The goal of the SunSpace meetings was to develop strategic partnerships between union representatives and managers. Guadiana and Winter hoped that by placing these key employees together they might then pool their knowledge and improve the working conditions and operating productivity of those units. And, indeed, soon after these meetings started and word spread among the workforce about what has happening, workers themselves began initiating new projects to improve productivity. For example, when the time came for mill employees to attend one of the SunSpace meetings, the few workers remaining on duty recommended that all managers attend the meeting and that they would maintain operation of the mill, thus avoiding a costly shutdown of the operation. The workers there were eager to showcase what they could do on their own. Running an operation that company managers considered beyond their capability was a dramatic way to indicate just how skilled and knowledgeable they were. So, despite disapproval and reluctance from many of the managers involved, a SunSpace meeting that included all the managers took place with the workers left on their own to run the mill. To the surprise of many, the workers kept the mill operating smoothly.

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[2] It should also be noted that many of the managers attending the SunSpace meetings had their first chance to voice their real opinion about their own supervisors without fear of at least official retribution. The company learned quite a bit about its internal practices when their lower level managers opened up.

The size and number of these meetings at the SunSpace facility were part of the plan for making the joint relationship a successful one. Those who attended the Scottsdale meeting believed that only massive participation of the workforce could lead to the kind of gains in productivity Winter, Guadiana, Campbell, and others felt was needed at the company. Through these meetings, managers and union officials made it a point to get their people discussing how they could join together to redesign and improve their workplaces. Hundreds of projects emerged from these meetings, from where to store equipment so that it was more accessible to what equipment was needed and how jobs could be redesigned so as to streamline mining operations.

To be sure, there was always difficulty in selecting the leadership of these teams and the variety of leaders within the various committees that constituted the joint relationship. Non-union employees bitterly contested this requirement because it effectively excluded them from any of the leadership positions in the joint relationship. Union officials, however, rightly insisted that any leaders had to be union members since collective bargaining issues were affected by the teams' operation.

IV. The joint relationship revealed: Goals and objectives

What the joint relationship intended to do was reshape how workers and especially managers perceived their jobs. The goal was to develop a new culture among the managers and workers of Magma, one where change was a constant companion both because of the changing conditions of the copper market and because of the desire to constantly improve working conditions and processes within the company.

The new approach, however, was never intended to breach the strategic decisions of the company. Investments in capital or foreign properties and any interaction with Wall Street financiers remained solely in the hands of Magma Copper executives. Union officials wanted to be informed of such decisions, but they realized that final and sole authority for such decisions remained in the hands of company management.

What the parties sought after their Scottsdale meeting was a growing awareness of how inter-dependent each was to the other. Yes, a miner with barely a high school education would most likely be hard-pressed to understand the geographical and mechanical engineering that went into the design of mining operations. The years of education and training a manager possessed gave him a quantity of knowledge most miners would never develop. Yet, at the same time, from their experience and training within the mines many miners had a wealth of knowledge about what could and could not be done in practice. Instead of a manager designing some work process, implementing that design and then discovering the problems in that design, going back to the drawing board to redesign the work process, implementing it again, discovering more problems, and so on, managers would turn to workers during the design process and together they would develop the work process. This kind of cooperation, union and company officials hoped, not only led to more productive work processes in an industry heavily dependent on labor but also to better working conditions for the workers themselves.

To get this process going, several "Breakthrough Business Projects" were planned using the transformational methodology developed by King, Chapman, and Broussard. These projects not only would demonstrate what workers and managers could achieve under the joint relationship but they would also serve to enhance company productivity to attract future investments. The biggest of these breakthrough projects was the development of the Kalamazoo ore body. This ore-body, adjacent to and deeper than the existing underground mine at San Manuel, provided an opportunity for determining how much workers and managers could accomplish under the new relationship when given free reign. After an extremely successful pilot project, a special memorandum was signed that spelled out union and management commitment to this new project as well as objectives by which the parties would judge the success of the project such as a reduced cost for mining ore at under $4.00 a ton. This memorandum also spelled out the parties intentions to work together as a "high-performance team," a team that necessarily would mean changes in current labor agreements as people worked across various job classifications.

> Cross-working is not intended to diminish the integrity of any craft or classification; rather to encourage cooperation, teamwork and increase productivity, by allowing employees to perform a variety of short duration tasks in order to expedite the job at hand or ensure that employees are productively employed when no work is available in the employee's regular job. As a part of the team, a supervisor (team leader) may, from time to time, lend a helping hand when such assistance is for a short duration.

As part of this provision, the company asserted that it would apply this provision in a fair and reasonable manner and that any disputes over it would be handled within the JUMCC.

The Kalamazoo project was important because its success was tied to the success of the joint relationship in the San Manuel underground mine as a whole. Magma needed $135 million dollars to begin full production in the mine, and investors were unwilling to turn over such money without seeing improvements in the existing underground mine. In other words, investors were worried that while there might be dramatic productivity improvements in a "greenfield" mine such gains might disappear once operations reached the same scale as the existing "brownfield" mine. Hence, as part of the development of the Kalamazoo ore body was the written commitment to apply lessons learned there not only to the existing underground mine but to the entire labor agreement. Current or future labor agreements -- including the upcoming 1992 labor agreement -- could not preclude production processes developed through the joint relationship.

Signed in 1992 -- eight months before the 1989 agreement was to expire -- the new labor agreement built on that previous memorandum. It was extraordinary in many respects. First, the length of the labor agreement was for fifteen years rather than the three year time period of previous labor agreements. The length of the labor agreement was important to the company, the unions, and the joint relationship because that length encompassed the lifespan of the mine and provided the company with a long period of stability on which the joint process could be built. The agreement contained provisions which prevented any strike or lock-out for the next seven years and thus secured the position of the joint relationship in company operations and union decision-making. Wages and benefits were set for the next five years in that agreement and then for the next two years each side had the option of invoking binding arbitration if the parties could not reach an agreement on financial issues or to roll over current wages and benefits for another year.

Second, the joint process was now an integral part of the all labor agreement as numerous provisions provided principles and visions for how the parties were to relate to each other and resolve disputes rather than specifying the rights and obligations of each in the contract itself. Seniority provisions, safety matters, wages and other traditional issues of collective bargaining were still contained in this agreements. But, the agreement also contained language about how the parties would develop and reward employees for their multi-skill training, how workers and managers might develop their own team-based work schedules, and how other matters related to their cooperation might be engendered. Moreover, further contract negotiations and even grievances would now be handled through the JUMCC rather than the collective bargaining process. Only when the JUMCC and a separate group of company and union officials both failed to resolve a bargaining issue would a bargaining dispute go to interest arbitration. Indeed, the labor agreement now contained a vision statement that spelled out how the parties would understand their commitments to the joint relationship: "Long-term employment security will be enhanced through basic wages and benefits coupled to flexible compensation which rewards employees for cost improvements and expanding profits.... All employees will be continuously trained and educated to perform multiple tasks/roles to increase their sense of self-worth and their value to the operations."

This new relationship was even part of how the new labor agreement came into being. Five teams, evenly divided between labor and company representatives and totaling 80 people, developed proposals for the new labor agreement. These then went to a 28 member union-management team that incorporated those proposals into the final labor agreement. Gone completely was the bluster of bargaining agendas. No one was trying to push the other side around or "beat" them at some contest of power or will. So, while the contract still contained much the same language and issues of the previous labor agreement -- wage increases and benefits as well as a grievance process still existed after all -- the atmosphere was now completely changed. As one union official explained, the traditional contract was now on the shelf, only to be dusted off and used if the joint relationship broke down completely. And in 1991, such an event was extremely unlikely, as even union officials who had campaigned against the joint relationship began participating in the joint relationship, if not wholeheartedly at least with some enthusiasm.

To be sure, this agreement was controversial and support among the workforce was far from unanimous. Unlike previous labor agreements that usually passed with a 70 percent or higher favorable vote, this agreement received an approval vote by only a 61 to 39 percent margin. That reticence likely arose from how different this labor agreement was from past ones. First, unlike previous labor agreements that had gone through a strike action or a threatened strike and a last minute settlement, this labor agreement was signed a full eight months before the previous agreement expired. The necessity or sense of "victory" surrounding this agreement was largely missing. Second, trepidation about the length of the agreement existed, and many workers may have felt that a shorter length was more appropriate. It is a testament to the strength of the joint relationship that workers largely saw how a 15 year period, when tied to the life span of the mine, provided a degree of financial certitude extremely attractive to finance interests on which the company and its employees depended.

A. Structure and functions of the joint process at Magma

The Joint Union-Management Coordinating Committee (JUMCC), which consisted of 16 managers and union representatives, evenly split between the two groups. Union membership was further divided among all the unions represented at the mine. At the top of the JUMCC was its chairs, Guadiana and Campbell, who together had final authority to resolve issues that could not be resolved within the JUMCC. Each union, as well as all the top management directors within the company, agreed and vested power in the co-chairs to resolve matters that the JUMCC could not. The importance of this final authority was crucial to keeping the joint relationship on track and not bogged down in internal union politics. For example, there were frequent complaints about work being done by one group when it should have been assigned to another. Representatives from one union often approached the JUMCC with complaints from their members about this improper work assignment. At times, JUMCC members could point those union officials to pertinent sections of the contract that resolved the issue, but all too often there was no contractual provision on point and so quick resolution would have been impossible without the co-chairs "cutting through such flak" so that such disputes did not bog down the joint relationship.

As the JUMCC gained wider acceptance at the mining company, these traditional collective bargaining issues faded into the background. The increasing importance of the joint relationship largely arose from the increasing scope it played in company and union affairs. Action taken through the JUMCC was always checked to make sure it did not "violate" the labor agreement in effect at the time. Such a "violation," however, was largely in the eyes of the beholder. A work team could not change wages or benefits or re-determine when overtime might apply. Such issues remained almost entirely with the collective bargaining agreement, and work teams, for the most part, never considered changes in such areas. But most other issues existed in a gray area between the labor agreement and the joint relationship, and whether the contract was invoked or not in these "gray" areas was largely up to the union leaders heading up the various parts of the joint relationship. With Guadiana as chair of the JUMCC and the Regional Director of the USW and hence the final authority over both avenues, union leaders found they often had to adopt the position Guadiana advocated regardless of how they personally thought the dispute should be handled. In other words, Guadiana had contractual authority to interpret the contract as he believed most beneficial to the union members he represented.

While the JUMCC originated from a letter of understanding in the 1989 collective bargaining agreement, it quickly developed into a mechanism for resolving disputes outside of the collective bargaining relationship entirely. Further memoranda and the 1992 labor agreement reinforced this shift from collective bargaining to the joint relationship. That result was intended for two reasons. First, union and company officials wanted a more open-ended process for dealing with issues that arose between them, and they saw the JUMCC as that more open-ended mechanism. With union and company representatives meeting regularly and talking with each openly and honestly about issues dividing them, the JUMCC offered them a chance to air problems and find solutions to those problems without pulling in the legal framework and obligations found in the labor agreement. When devising solutions through the JUMCC, the parties were <u>not</u>

setting legal precedents and resulting rights and duties as they would have in collective bargaining, and as a result they had a great deal more flexibility. With job security and company profitability now intertwined, the unions could turn to other issues and address them with a degree of freedom they had not possessed before. Company officials could delve into issues around job responsibilities that had been in the past largely forbidden from them.

Such trust and cooperation found expression outside of the meeting room. Union officials now had the opportunity to meet with new hires during orientation to explain both their role in the company, the importance of the joint relationship, and how they were now working with company managers through this joint relationship. A company railroad car for transporting ore even was festooned with a giant placard declaring "UNION YES!" For Winter, there was absolutely no reason to oppose the unions' presence in the company. As he explained to a reporter in the journal Industry Week, "If you can work within the framework of a union, you can accomplish a hell of a lot. There's a structure there for communications." With such openness and willingness to work with the union from the top of the company, union officials no longer had to fear that people would lose their jobs. As a result, they could turn to other issues vital to the company with confidence both that they would be heard and that their ideas would not have unforeseen and unwanted consequences to their members.

The joint relationship extended beyond bringing union and company officials closer together. Its second facet was to open up relations between workers and managers on the shopfloor -- the area where the productivity gains took place. The pilot project at the Kalamazoo ore body, for example, involved 150 workers and managers who threw out entirely old routines for mining so that they might devise new ways and methods they thought would work best for that particular ore body. With no loyalty to traditional work practices or to the traditional authority of the foremen, this group produced stupendous results. This small group of workers attained a level of productivity 60-70 percent higher than what the main San Manuel underground mine had achieved. What this group achieved for underground mining operations -- company and union officials eventually transferred almost all of the techniques developed here to the main underground ore body -- needed to occur and did occur for the rest of the operations at Magma, including the smelting and refining divisions, the surface mine, and the operations at Pinto Valley and Superior.

Participation in these redesign efforts was voluntary. Which workers did which job within their unit and how they did their work was their concern primarily, and they did not need a committee of union officials and company vice-presidents telling them how to do their jobs. If the workers within a unit did not want to participate in the joint process then somehow coercing their participation was doomed. The very nature of the joint relationship required that workers voluntarily participate. As the program spread, however, giving workers a glimpse of how much better their jobs can be, most workers began to sign up, maybe not as completely or as quickly as some would have hoped, but sign-up they did.

On the other hand, participation by supervisors could not be left to their own choice. The decision of this single individual could prevent several others from participating, and no "team" for redesigning work processes would develop as a result. So, along with the get-aways at SunSpace, over 300 of the company's supervisors attended a special retreat where the importance of cooperation with employees was emphasized. The company believed such training was essential to the program since almost all the line supervisors and most of the mid-level and senior-level managers had been with the company their entire careers. The history of unilateral supervision in the years of experience among these managers would not disappear overnight and would continue to prevail until prodded to move aside. This special training was meant to drive home the point that not only were there alternative ways of managing the workforce but that they needed to adopt those alternative ways or their future with the company was in jeopardy.

Yet, it would be a mistake to think of the joint relationship at Magma as somehow tied to the organizational decision-making of the JUMCC and its divisional counter-parts (within each division there were general committees as well, and it was from these committees that recommendations about changing production practices arrived to the JUMCC). While union leaders, company presidents, and consultants probably intended for the JUMCC to have a degree of control and authority over the joint relationship, the efforts on the shopfloor quickly out-paced the ability of the committee or anyone involved in managing the joint relationship to control. Any attempt to dictate a structure for how workers and managers should work together, a protocol for how they should implement their ideas, or a strategy for how they should listen to each other was doomed from the start. The job experiences and resulting issues among the workers in the mines or those staffing positions in the refinery, or the electricians and plumbers and pipefitters, or the crane operators and dump truck drivers in the open pit meant any kind of unified plan was doom from the start. Coupled to these wide differences in work experience were the dozens of personality differences between the workers and bosses within the same workgroup. Any effort to fit all these workers as well as their bosses into one single operational framework could not possibly encompass all the issues relevant to these workers and still be effective. So, how each group formed a union-management team and what that team considered its relevant task was entirely up to them. What was communicated to them at the SunSpace meetings was: first, simply the idea that workers and bosses could and probably should talk to each so that they might resolve disputes and address production issues together; and second, how to start that conversation. After these initial steps, it was up to them how they went about that objective.[3]

The real heart of the joint relationship, then, rested not in the JUMCC or committee structure through which it worked nor in the co-chairs and their ability to manage the initiative so that it never bogged down. Rather, the joint relationship depended almost entirely on the small workgroups that made up the mining, smelting, and refining operations within the company. They came up with the ideas about how to reorganize their jobs and their schedules and how new equipment or work practices might improve or impede their productivity. Once consensus on those ideas was reached, these workgroups then fashioned those ideas into proposals which the departmental committees reviewed and made recommendations and, when approved, the JUMCC then reviewed. Such reviews were largely to determine if the proposed changes did not conflict with what was happening elsewhere in the mine and to assess whether the planned results were as likely as the workgroup intended.

So, while Guadiana and Campbell may have had final authority to settle an issue, that authority was hollow if not for the widespread belief and participation of the workforce in the joint relationship. What the leaders leaving from the Scottsdale meeting in 1989 had hoped to see was hundreds of work teams at the company developing the sense of partnership they had experienced at that meeting. They realized that hope as people in their production teams began to work out their own problems once they had established guidelines for how the team was to operate. Even disputes that would normally be a part of the grievance process became subject to the team and its own processes for resolving issues. Only when a dispute occurred between multiple teams was the grievance process an option, and even then the teams could side-step the grievance process if they so desired and set-up a problem-solving process for resolving the issue. By the end of 1990, with the JUMCC meeting monthly, the joint relationship largely covered all the company's operations.

Because the teams that constituted the JUMCC were so diverse both in their operation and with the issue they dealt, people could immediately see how effective the new relationship was. They could accept this change in the labor-management relationship because they realized without delay the promise of

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[3] To be sure, workers and managers were not on their own in developing their joint relationship. Company and union officials backed the development of an executive office within the company to spearhead the organizational development required by the joint relationship. This office and the people there provided vital facilitation and coaching resources to work teams so that the evolvement of the joint relationship was as smooth as possible.

something better in their lives through the joint relationship. Not only did this new involvement in their jobs promise and deliver more money in their paychecks, but it also radically altered how they thought of themselves. While people from the days of Frederick Taylor have talked about how inter-dependent workers were, few have credited basic production workers with much importance in that involvement. At Magma, however, the idea of workers inter-dependence gained an actual foothold within the workforce. Those designing mine operations gained an appreciation for and began to work with the people who did the actual digging to see how their plans might be improved from the start. Everyday miners, previously given little regard by anyone from the company, now mattered a great deal.

This growing acknowledgement of their expertise and their expanding importance in plant operations gave the workers a sense of dignity they never had before. Not only were they involved in decisions previously made without their input or their consideration, but they more often than not were simply making such decisions themselves. Questions over whether to try new machinery or new schedules or how workers and managers might reorganize their efforts were now firmly in the hands of production workers. This new-found responsibility invigorated employees, providing them a chance to take pride in work many had -- both in and outside the mines -- considered little more than large-scale ditch-digging. Now, they participated in their jobs to a degree that left no doubt about their authority and importance in making the company a success.

Managers were still present, and they still had the ultimate authority to determine which operations would expand and which would shut down. The focus of their work shifted, however, from bossing people around to coordinating the efforts of their employees. The difference was that now managers recognized the important contributions their employees could make in decisions they previously reserved for themselves. So that this shared authority became more than company managers "checking in" with their employees, the company began sharing information on all company matters with workers and union representatives. While some still thought there was a second set of books kept by the company, most union personnel could see via the books how serious the company was to working with and cooperating with its employees.

That openness led to growing trust between workers and managers, trust that in turn led to the shedding of animosities and even the diminishing of institutional authority. In some parts of the company, workers and line managers began to share work and decision-making to such an extent that it became difficult at times to tell who was the boss and who was the production worker.

B. Problems with the joint process at Magma

Despite the almost immediate success of the JUMCC and the projects that resulted from the ensuing worker-manager cooperation, the joint process hit a major stumbling block during the 1991 union elections. Several union leaders came up for election at that time and surprisingly many of the leaders initially involved in the formation of the joint relationship were voted out of office. The president of the Steelworkers local, the largest union at Magma, was voted out. Joining him were the presidents of the boilermakers, electricians, and machinists locals at the mine as well as other union leaders. The turnover was staggering, both to those who lost office and to company representatives who feared that the achievements of the last year and half were about to disappear.

Indeed, many of those winning office campaigned in part by attacking the joint relationship as a cave-in to management and that they would get tough with managers and prevent the joint relationship from further sabotaging union power. The problem with this campaign was that such promises meant little once the opposition leaders took office. The joint process already had attained a foothold in how employees and managers worked in their jobs, and so large parts of the workforce were already familiar with the alternative mechanisms available under the joint relationship. Indeed, one of the first issues these new leaders confronted was a recent memorandum about the development of the Kalamazoo ore body. Part of this memorandum prevented present or future labor agreements from getting in the way of productivity changes done through the joint relationship. Initially, several of the union leaders were concerned about abrogating present and future labor agreements (even when some had signed the original memorandum). Yet, opposition disappeared after a follow-up meeting explained how this memorandum did not jeopardize the job security of anyone. The memorandum simply represented an agreement about the scope of future agreements -- any of the changes to be implemented would be through the joint relationship and thus workers would have a more influential voice in planning production issues than through the collective bargaining process by itself. At the end of the meeting, union officials signed the memorandum again, recommitting themselves to the joint relationship in the development of the new underground mine.

In addition, the company was fully committed to the effort and was not about to back out because of this set-back, especially when vital parts of those unions still supported and involved themselves in the effort. Guadiana, for instance, still maintained his position as Regional Director for the USW. Moreover, Guadiana appointed several of the ousted union leaders to permanent positions with the JUMCC after their ouster in order to maintain a high degree of union support for the effort and to prevent attempts at undermining the process by the newly elected union chiefs. Guadiana, along with Campbell, also retained final authority over the decisions of the JUMCC, and so overt opposition to the joint relationship within the JUMCC could accomplish little if anything.

Such appointments understandably created further antagonism over the joint relationship as the losing union leaders failed to return to the workforce but now took up jobs as full-time coordinators for the JUMCC. For the newly elected union leaders, such appointments also undermined their efforts at appointing people to key positions with whom they were familiar and with whom there was a high degree of loyalty. Yet, the new leaders' antagonism to JUMCC and the joint relationship rarely extended beyond this quiet fury over the appointment of their competitors to JUMCC positions. Those union leaders who had argued against the joint relationship during their election campaigns rarely spoke about the evils of the JUMCC after taking office. They realized that whatever their personal feelings about the joint relationship, a large part of the workforce supported the initiative, it was part of the contract and so required their participation, and it provided them an additional forum for exercising power within the local. They may not have had final authority, but they certainly had the ability to shape debate within the JUMCC, to encourage or discourage workers to bring projects to the attention of the JUMCC, and to affect how the JUMCC responded to proposals. As a result, these new union leaders were mostly supportive of the joint relationship despite their occasional threats to end the process or pull out of a meeting.

These new union leaders did affect the momentum of the joint relationship, however. What had been generally a steamroller of a movement among workers and managers now slowed down considerably. The active support from the unions was now much less than it had been, and there was a great deal more debate about whether and how new initiatives should be developed. From the company's perspective, they grew especially impatient at having to wait for union in-fighting and debate to be settled both in and out of meetings before actual joint discussions could begin. Not only was the pace of change from the joint relationship slowed, but a degree of distrust from the managers towards some of their union allies began to creep back into the relationship. Here, the continued presence of the JUMCC co-chairs at least minimized the impact of such disruptions and kept some of momentum going. The appointment of several of the former union-leaders into coordinating positions for the JUMCC also provided the joint relationship with eyes and ears about events on the shopfloor independent of any particular union caucus.

A second problem that arose from the new union leadership was a reversion to old practices in the handling of grievances. Under the 1989 collective bargaining agreement work redesign was not a grievable issue, but in prior years that legal prohibition had not stopped the union from filing numerous grievances when the company introduced a change to a miner's job. With the joint relationship, however, extensive training of the immediate supervisors on the line and hundreds of employees provided workers and unit foremen the tools for resolving disputes immediately and within the work group. In addition, the company's Human Resources department began treating the grievances that were filed as issues that needed to be resolved rather than as simple ways for workers to vent their anger. Many of the new union leaders, however, saw grievances less as a labor-management dispute that needed to be resolved for everyone's benefit and more as a political cause that needed defending whatever the actual merit of the complaint. When backed into such a corner, the company's human resources personnel responded in kind.

While the unions acknowledged the limitation of joint decision-making when the strategic decisions of the company were at stake, labor's absence proved to be a sore point to union officials of all stripes. It seemed to many of the officials that their involvement was largely instrumental to what company managers wanted and that the joint relationship that seemed so important elsewhere in the company was an encumbrance in this area. Union officials recognized their limited role in this area of the company, but they still felt that they should be informed and at least consulted about developing issues. In other words, labor might not be a full partner with management in all areas of the company, but where full partnership lagged union officials at least wanted to be silent partners with the company.

As a result, on some decisions, company and unions cooperated extensively. In late 1994 when Magma purchased already unionized mines in Tintaya, Peru, union officials from San Manuel played a central role in the union management cooperation effort at Tintaya, showing the unionized workers there how vital and beneficial the labor-management cooperation at Magma would be for them. Magma even instituted a series of meetings and training sessions to develop the joint relationship at this facility similar to the kind of relationship being developed at workshops conducted in the states.

On the other hand, the purchase in mid-1995 of the Robinson property in Ely, Nevada for the development of a copper and precious mineral mine created deep fissures between union and company officials. The development of this property began as non-union, and the Steelworkers were eager to organize this facility and believed that, in light of the growing joint relationship, recognition of the union would be automatic (though there was an issue over the appropriate bargaining unit -- i.e. would the steelworkers have exclusive representation or would the unions representing the craft workers also be recognized?). Unfortunately, agreement was never reached and after the surprise announcement of BHP's purchase of Magma in November of that year the joint relationship was dealt a serious setback on several fronts, a setback from which it eventually could not recover.

For some union and company leaders, the problem was that the parties had become complacent. The joint process between union and company officials required too much time and energy, too many meetings and discussions and hours, to accomplish what many knew would be the final resolution anyway. Moreover, this relationship often lacked the immediacy a production problem provided workers and managers on the shopfloor. Oftentimes, the only link between the union and company representatives in the room was the joint relationship itself. So, some began to feel that doing something without going through the process was not that harmful especially when the end results were the same regardless of how the final decision was arrived at.

Another reason for the growing distance between union and company officials existed as well. The joint relationship depended a great deal on coordinating the communication among the various parties involved. As the joint relationship expanded, the job of coordinating what was happening grew ever more difficult. There seemed at times to be too much going on to comprehend it all so that one group did not know what others were doing. In this case, it was all too easy at times for the parties to revert to behaviors and ideas that had served them well in the past.

For example, when copper prices dropped in 1993 Winter and other senior executives started planning for a three percent temporary reduction in the workforce without coordinating that decision with the JUMCC. Decisions such as these had traditionally been solely within the authority of company management, and so company managers fell back to this traditional authority and sent out a memo to the affected parts of the company about the planned layoff, including the JUMCC. When Guadiana saw this memo, he immediately broke into a meeting of the company's Executive Committee and reminded them what this decision represented-- a reversion to the old collective bargaining relationship. Fortunately, company managers realized their mistake, backed off from the layoff announcement, and negotiated a new resolution of the problem -- a voluntary retirement plan that more than satisfied the company's financial concerns.

C. Joint relationship reborn: The Voice of Magma

By the start of 1993, the rush of events and action surrounding the start of the JUMCC had settled down. The JUMCC was now only meeting quarterly. In addition, the rapid pace of success from the joint relationship had begun to slow as gains in productivity became harder and harder to come by. Many of the key players involved in developing the JUMCC became concerned that the effort for the joint relationship might disappear or lose the broad scope it originally had. Many of those not directly involved in JUMCC-related projects saw the whole effort as the action of a few union and company officials meeting behind closed doors and doing their own thing. The joint relationship, for these workers and managers, had reduced general antagonisms but not fundamentally affected how people were doing their work.

To make sure that the workplace cooperation that had started would not become an historical phenomena, plans for a new series of meetings to reinvigorate the joint relationship began. These meetings would be called the "Voice of Magma" as they would become the central forum through which workers, unions, and the company could meet, discuss, and create from scratch future goals and projects of the company. Key organizers behind the joint relationship believed that everyone in the company needed to be engaged in the joint relationship. The demand of constantly inventing new work processes or the joint relationship would prevent the company from becoming stale, unproductive, and largely ancillary to most workers' and managers' thinking.

The first task for this Voice of Magma was the development of a corporate charter and bold statement that clarified the values and objectives of the company. Further Voice of Magma meetings extended that charter to cover what future changes the company should embark on, but it was these first initial meetings that would set the tone and scope of the meetings to follow. Starting in March of 1993 and extending into the next four months covering eleven days in total, these meetings were intended to let the employees and managers rethink the entire relationship they had with the company-- to completely sever the company and its unions from their prior history so as to create a new sense of themselves and what the company could be. The organizers of these initial meetings from the consulting firm Landmark Education Business Development ("Landmark") invited the 140 people attending these meetings -- both workers and managers from all levels of the company -- to take ownership of the company so that what the company could achieve would turn <u>entirely</u> on what the people in the company wanted to do and not on some kind of financial, organizational, or technological limitation. They and no one else -- using the vocabulary of Landmark -- would be the "authors" of what the Magma story would become.

What happened was a combination of a tent revival with a public hearing as the participants created a kind of "Declaration of Independence" for Magma and themselves. People from all the levels of the company participated equally in finding the words and ideas through which they would find common purpose. A day might be spent paging through dictionaries and thesauruses about what a family meant and whether Magma Copper could be considered a family. Sometimes, participants broke off into small groups to address specific issues. At other times, all met together and hashed their ideas out in one central forum. In all of these debates, however, every voice and opinion had the chance to be heard before any differences were resolved. A division president and local union leader might eventually be the people in charge of developing a solution to some dispute, but that solution still had to convince all the participants, and the forum established here endorsed such active participation and critique.

As employees and managers voiced their concerns about their jobs, their workplace, the company's financial health, and how their work fit into their personnel lives, they started finding a common purpose in their efforts. That purpose found expression in five documents -- a charter, a bold statement, and a set each of accountabilities, of commitments, and of goals. These documents and the issues each covered raised essential questions of what it meant to work for a living and how a company could both be responsive to the needs of its employees and remain competitive in an unforgiving marketplace. In the charter, unions, managers, employees, and the Board of Directors asserted their pride in their product, their safe workmanship, and their competitiveness. "Through a unique culture of innovation and initiative," the participants explained in the charter, "we are focused on the continual development of our dynamic, adaptable, team-based organization which is committed to breakthrough results and the highest possible return to shareholders.... This unique relationship with our unionized employees adds value and affords us a major competitive advantage. We jointly design our future, guided and defined by our principles."

In the statement of accountability, participants expressed their dedication to Magma Copper as "an organization where resignation and cynicism are replaced by enthusiastic participation. We promise to champion the creativity and innovation that will result in the fulfillment of our future. We stand for continually inventing our union/management partnership and for the commitments that are the foundation of our joint union/management cooperation." Behind such accountability were commitments to the diversity in the speaking, listening, and acting of everyone in the Magma "family." Each employee and manager was to participate enthusiastically in the "ongoing design of our organization by being a member, a support to, a resource for, and/or participant in the matter of organizational design and invention." Besides numerous other commitments put forth here, two commitments were for building team structures "wherein being authentic and effective is more important than looking good or being right" and for "continuously generat[ing] the inquiry of what is possible, what is missing, and what is next." Finally, the goals for this relationship were straightforward but just as all-encompassing as the other objectives within these documents. Magma was to maximize profits for shareholders, protect and enhance the environment, to provide education to employees, to offer the best combination of wages, benefits, and job security in the industry, to develop the teamwork culture, to take the best advantage of whatever technology is available, and to maximize safety. And, while nowhere stated in these documents, these goals were inter-dependent on each other as far as the workers and managers at Magma understood them. There was to be no trade-off between safety and profits or between teamwork and technology.

The principles raised in these documents were necessarily abstract since they applied to the entire company. What was needed next was for all the employees in the company to begin defining what these abstract concerns meant to them in their particular jobs. In response, a series of workshops -- each taking place over a three and a half day schedule called "Leadership for Inventing Our Future" -- was initiated for all the employees. From the end of 1993 and through 1995, over 4,000 of the approximately 5,000 employees in the company attended these meetings, all of which Landmark led. Participants developed new ways of thinking and new language skills for communicating and putting into action ideas for radically higher cost-savings, unheard of productivity gains, and much improved safety. This new perspective entailed the development in leadership based on insight and skill rather than organizational authority.

Whereas the JUMCC was largely about implementing the hundreds of work redesign proposals that had already been developed or which emerged over the first three years of the joint relationship, the Voice of Magma process was more concerned with creating a context where every employee could create organizational breakthroughs that invented a new future for the company. In other words, the Voice of Magma process was a far more broader and extensive development in the joint relationship, one where the institutional loyalties of union and company officials began to blur together to the point where there was neither steelworker or machinist or foremen but only Magma leaders creating their future.

To support both managers and workers, a third wave of workshops then took place, titled breakthrough performance seminars. Twelve union and management leaders conducted these follow-up workshops with nearly 1,000 people participating. At the same time, the company set-up an employee to monitor the projects and results from these efforts, even dedicating a computer to catalog the hundreds of initiatives that were appearing throughout the company.

In a 1995 speech, Burgess Winter described the new kind of relationship that had developed between company and union and between manager and worker. All were united in shaping their future in whatever direction and to whatever end they wanted to go. "Our recommended approach is to stand in a future that is not directly derived from present conditions and circumstances.... An alignment can be created around a performance goal or strategic decision that, while not absurd, no one knows how to accomplish at the time the commitment is made. It is this 'past-freeness' that constitutes a radical departure from current thinking." Rather than seeing what was probable, the company -- constituting all of the managers, union leaders, and especially the miners laboring nearly a mile underground -- was now <u>concerned with what was possible</u>. There was no more concern about making sure that managers led or about secreting away important company information from prying eyes or about protecting hierarchical decisional making as the only way to efficiently run a company. Rather, the people of the company -- the workers and the managers who assisted them -- were the key to company success. There was "no resting, no coasting" in the marketplace today, and so any company that wanted to survive and succeed needed its employees to keep asking themselves "What's missing?" and "What's possible?" With the employees now literally driving the company, the company had to be as inclusive as possible to encourage those employees to participate. "It is possible to create a shared vision," Winter explained, "one that is generated by both workers and management, that all people in the organization can choose to commit to. I don't mean a compromised vision with trade-offs in which each side gives up something of what they want. Everybody participates in the creation without necessarily knowing how to get there or exactly what the result will be."

The Voice of Magma was not an immediate success, nor did it catch on at the same pace with all parts of the company. The Pinto Valley surface mine, for example, was by mid-1995 still mired in in-fighting between union and management personnel, and Winter himself was in favor of halting any further development of additional reserves there. But, after a series of meetings to get the parties talking to each other and to unite around some common issues and projects, the operation finally started to accomplish the kind of productivity gains and cost-savings Magma management and union officials had come to expect from the joint relationship. The Voice of Magma was no magic bullet that eliminated all problems within its path. People on both sides of the union-management fence needed to put away their differences, to own up to past mistakes, and to look at how they could join together on some common purpose. If they were not ready to start this process, company and union representatives could not force them into that process.

D. The gains from joint action

Through these efforts, productivity at the company sky-rocketed and costs plummeted. In 1988, productivity was under 370 pounds of copper per worker's shift. By 1991, the figure had climbed to around 520 pounds of copper. And, in

1994 productivity peaked at over 650 pounds of copper per shift. In six years, productivity had nearly doubled, almost entirely through the efforts of the workers themselves in redesigning their jobs and work routines. These gains translated into a sharp decline in production costs. In 1988, it cost Magma roughly 77 cents to produce a pound of refined copper. By 1991, it had knocked the cost down to around 72 cents. After another five cent drop in 1992 and nearly an eight cent drop in 1994, the cost of producing copper at Magma dipped below 60 cents a pound, averaging around 58 cents for that year. And, while costs rose in 1995 back to 64 cents a pound, this decline of over 20 cents during these years was a remarkable achievement. Magma, despite its poor ore quality, was among the lowest cost copper producers in North America, ironically when other companies were giving up on underground mining as being too labor-intensive and hence too expensive. Moreover, Magma's gains in productivity and declines in costs were not because of reduced employment. Throughout these years, the number of people working at Magma increased. In 1988, Magma employed 4,059 people. By 1992 that number had expanded by nearly 500 to 4,548 employees.

From the perspective of both the company and the union, the gains were not limited to productivity and cost improvements or even the increase in employment. Making a difference, being a committed leader, and a willingness to take risks and create a new future were just as important. Even when a unit was setting production records it could still attract attention from the JUMCC and the Voice of Magma. For example, the Tankhouse operation went through a complete organizational analysis and redesign because of fears that animosities among workers and between workers and managers would inevitably sabotage the entire operation. The root cause of those animosities turned out to be a lack of trust, ownership, and communication. So as part of the unit's redesign, both the collective bargaining agreement and management prerogatives were suspended so that the parties would have as much freedom as possible to work out their differences during the redesign of the Tankhouse. Employees and managers there had free reign to do whatever they wanted to improve the operation of the facility not so much because the contract provided some kind of structural barrier to change but because the relationships between the people working there needed a blank slate from which they were to be built. For Carleton Peltz, "It wasn't necessarily what was on paper, it was the experience that employees gained from the process. It was blue sky and what they were faced with in implementation was the 'real world.' With all the knowledge gained from the process, [the employees developed a sense of] ownership... and committed to change."

The Voice of Magma, then, was about employees considering new kinds of questions and a new orientation to who they were being at work. The personal ambition and goals of employees as individuals and family members become intertwined with the company goals of being competitive and successful. The joint relationship here was more than managers and workers learning to get along with each other while at work. It entailed a psychological change, a new outlook and perspective of who people were being at work. During Voice of Magma meetings, questions and issues arose that may have seemed more appropriate at a marriage counseling session or in a conversation between friends over beers. "What do you want to be doing in five years?" "How can this job improve your personal satisfaction?" Employees responded to these overtures. During their off-hours, they began thinking about how to fix that problem with the conveyor belt or get more uniform concentrate for the smelter rather than what a son-of-a-bitch their foreman was or how dirty and mind-numbing their job was. One worker described how people at Magma were no longer embarrassed to be copper miners and that instead they were now proud to be copper miners and working for a company like Magma. No one lived in fear of the "boss" anymore, because the boss was now a colleague offering assistance and a helping hand. Indeed, the miner was now the boss, but a different kind of boss, one that looked to others for assistance and guidance and challenges.

V. The role of third parties: Solidarity for all

Magma Copper employed a host of consultants to develop the joint relationship, to expand that relationship, and to develop programs in support of the joint relationship. Of these groups, two deserve special attention here: King, Chapman & Broussard and Landmark Education Business Development ("Landmark"). Other consultants were brought in at times to provide facilitation and communication assistance. Many of these were let go after a short time because, as more than one official described them, "They just didn't understand copper." While skilled at running meetings and making sure that all the people there participated as equals, they lacked substantive knowledge about the copper industry and the work done in the mines and at the smelters. As a result, they missed the importance of what workers and managers were discussing, frustrating both the people attending the meetings and the consultants themselves. Still other consultants arrived at Magma, but their role was largely to provide specific advice in developing an initiative arising out of the joint relationship, such as how new machinery might work or how to design the gain-sharing plans. Their presence was vital to company productivity, but their role arose as an outgrowth of the joint relationship. They did not assist in the development of the joint relationship itself.

The consultants from King, Chapman & Broussard and Landmark, on the other hand, were instrumental in developing the joint relationship. Both of these firms developed programs based on a transformational technology. Landmark was a new venture in business consulting, a wholly-owned subsidiary, launched by

Landmark Education Corporation, an employee-owned company most notably known for its Landmark Forum, two to three day seminars on self-transformation offered to individuals. Landmark Education Corporation had its historical roots in transformational distinctions developed by Werner Erhard called est (Erhard seminars training). Some key principles of est were that individuals were not bound by past ideas and perceptions about how they could act and what was possible for them. Rather, they could take charge of their lives, for they alone could determine who they would be in their lives. A new perception of events literally and truly meant a new person, but it was up to the individual to develop that new perception. King, Chapman & Broussard applied transformational methodology to companies and examining what they could do in reinventing themselves to meet new competitive pressures. Every facet of a business could benefit from new thinking, King, Chapman & Broussard consultants maintained, including labor-management relations. Landmark, on the other hand, had almost no experience in labor relations and only recently developed a new technology for transforming business enterprises.

King, Chapman & Broussard arrived at Magma in 1989 when Campbell and Winter first began working on how to implement the joint relationship. For Mueller and his fellow consultants, partnership was the key word for their effort. The consulting firm was adamant that any kind of successful change depended on the recognition that unilateral decision-making was a limited tool for managing and that both workers and managers need to combine their efforts if a company was to truly reach its competitive potential. Such a message was what Winter and some of the managers at Magma wanted to hear. Winter, for example, acknowledged to Mueller that he was not proud of Magma's prior labor relations record, and he wanted to change those prior practices. What worried Winter was whether this current effort could accomplish that goal, not whether it should be tried.

The consultants, on the other hand, were confident they could handle their job. Their own research into the copper market and the copper mining industry confirmed the perception of Magma's precarious financial position. At San Manuel, they began by interviewing a small, select group of union and company leaders to learn from them the likelihood of change, what some of the expectations of the parties were, how open the parties were to changes in the current labor relations climate, and their perception of the financial fortunes of the company. Their main worry was how company line managers and union leaders would respond to what Magma’s top executives were trying to do. The conduct and particularly the commitment of top managers such as Winter, these consultants believed, was the key to whether the union could accept this new initiative. In their interviews with union leaders, they learned that almost all of them knew the mine was not as productive as it could be, and most believed one of the main reasons for that low productivity was because workers believed that once they clocked in they had to turn off their brains and simply follow managerial directives. For several decades, union leaders asserted to the consultants, managers did not want to hear employees' contributions and ideas about how to organize the mine and accomplish the work, and so if managers were not fully behind this initiative union leaders would immediately back out and return to their original antagonism.

Mueller and his associates explained to Magma managers that at every meeting union representatives would test them to see if commitment to the program was flagging. Company officials would not only have to be committed to the effort, but they would also have to show that commitment to an openly hostile audience. They also explained to union leaders that the goal here in developing this new relationship was to end the past antagonisms that had ingrained themselves into workers' thinking. They would, from that point on, be a vital part of the company, and their ideas would matter a great deal to how work processes in the company would change. The key, the consultants emphasized, was that the union leaders had to turn their attention to the work and the company's productivity rather than simply dwelling on labor relations. In other words, union leaders had to accept an added responsibility and burden to address traditional management concerns while managers had to be willing to listen to and accept the judgement of union leaders.

The Scottsdale meeting provided the kind of breakthrough the consultants had hoped for. At least for the seventeen people attending that weekend, a new labor-management relationship was possible. But, no matter how influential those seventeen were, they could not turn the company and the unions around on their own. As many employees and managers as possible needed to experience a similar transformation, especially if the change was to extend from labor relations into production. So, the SunSpace meetings were a natural follow-up to what had occurred at Scottsdale.

Still, Mueller and his associates at King, Chapman & Broussard realized that a few meetings, no matter how informative, could not lead to the kind of sustained change Magma needed if it was to survive. The consultants, together with company and union leaders, developed the idea of breakthrough projects as a way of securing the changed worker-manager relations. The people attending the SunSpace sessions needed to begin working together on their own initiative both in developing methods for improving productivity and in cultivating new relationships across the employer-employee divide. These projects became both the method and the result of joint cooperation. In other words, the specific workplace projects planned out at the SunSpace meetings served as devices for reinforcing the joint relationship and for showing everyone just how effective cooperation could be.

As the joint relationship blossomed, various workgroups began developing their own projects, using the large breakthrough projects as example of what they could do. The outside consultants, continuing to run meetings at SunSpace, began working as liaisons between the JUMCC and the various workgroups that popped up all over the mine as a result of the joint efforts. That coordinating role was especially useful in the early stages of the joint relationship. Because these consultants were not managers themselves, workers at the mine could trust what they said about the new joint program whereas such an initiative coming directly from managers would probably be seen as little more than an attempt to subvert the workers. Moreover, in coordinating the joint effort, the consultants took care not to intrude on the issues workers wanted to address and how those workers went about resolving those issues (outside of the general communication rules the consultants established for every meeting). Indeed, those participating in the workgroup planning sessions were for the most part those workers and managers who were most concerned about changing shopfloor practices. Only those committees that existed at higher levels of the company required some kind of formal appointment and for the most part there was initially little debate over who was appointed to these positions. With so much going on, there were plenty of opportunities for people who wanted to participate to do so, and so there was few questions raised about who was doing the actual participation. The consultants' "neutrality" virtually assured that the committees and planning sessions were free of any taint from being an entirely management or union program.

Indeed, when a consultant first met with a group calling for assistance he arrived with no agenda regarding what should be discussed or how discussion might be initiated except for some general ground rules regarding how the parties should talk to each other. Some of these rules were: that everyone had to participate in the team meetings and provide input; each person was limited to five minutes; no personal attacks or hidden agendas; that all information had to be shared openly; and that all the members of the team were responsible for the outcomes.

The consultants also provided important assistance to managers and supervisors who had to cope with these new relationships with the employees under them, employees who had frequently been seen as having no role in management decision-making. Here, the consultants were essential in showing company managers how to put a joint relationship into practice and how the joint relationship did not jeopardize their standing. Managers would still manage, the consultants pointed out, except now they would have the benefit of working with their employees rather than against them. They would still be supervisors, but their main job now was in facilitating and coaching their employees, and in the long run this new kind of relationship with their employees would lead to them being more productive supervisors.

As the joint relationship and the JUMCC expanded, however, the role of the consultants from King, Chapman & Broussard slowly diminished. A full-time coordinator for the JUMCC appeared after the 1991 union elections, and he provided much of the assistance the outsiders had previously offered. Managers already had had enough exposure to the program to understand and trust what this coordinator was trying to do. In addition, he had growing support from managers within Human Resources, as it added more personnel and expanded operations to support the joint relationship. Indeed, in 1991 Magma ended up hiring several consultants and clients associated with King, Chapman & Broussard, including Mueller and the union president originally interviewed in California, Charlie Lewis. Several former USW officers also joined the company's organization development function in this capacity.

In addition, as Regional Director and chair of the bargaining committee Guadiana continued to play a vital role in organizing and supervising union participation in the joint relationship. His position as head of the bargaining committee for new labor agreements combined with his authority within the JUMCC allowed him to corral union antagonisms to the company long enough for these leaders to see how the joint relationship would advance their own interests and the interests of the workers they represented. Guadiana could not dismiss those union leaders who were being recalcitrant as Winter could with company managers nor could he lay down the "law" for how union leaders were to act in their locals. Some continued to explain to their members that the problem-solving techniques being developed through the JUMCC were just an alternative avenue to the grievance process and in no way changed workers' rights to file grievances. For Guadiana, that attitude missed the point of how the joint relationship could eliminate the need to file grievances in the first place. But, as the person who ultimately decided whether grievances went to arbitration, he could use that authority to push the joint relationship as the mechanism for resolving the grievance even when workers and union leaders were reluctant to adopt such a strategy. In this way, Guadiana kept the joint relationship going even when it seemed that union leaders were not fully supportive of the plan, and in so doing kept managers, who sometimes worried about the lack of union support for initiatives, mollified.

However important and active the work of Guadiana, Lewis, Mueller, and the JUMCC coordinators, they could not prevent the program from losing some steam in 1992. Nor could they by themselves push for the kind of transformation they and company and union leaders wanted to pursue as a next stage for the joint relationship. The JUMCC was now a functioning part of industrial relations at Magma, but there needed to be a further change in how workers and managers themselves perceived their jobs and the company in order to further maximize productivity. The Voice of Magma process would be the forum for accomplishing this new kind of change, and here Landmark seemed to be best choice available. Landmark focussed their attention on creating new strategic, operational, and individual conversations within Magma. They had little knowledge of the copper industry and industrial relations. Indeed, a knowledge of the industry and copper manufacturing was probably a handicap for this forum, since one of the goals of these meetings was to rethink completely what the company and the unions could do together. Managers and workers had the knowledge needed to begin exploring what processes and challenges the company could undertake. What they lacked was the initiative to break fully from the past and trust each other to develop this entirely new relationship to the fullest extent possible.

Landmark consultants invited the participants at the Voice of Magma meetings and the follow-up second and third phases to first become aware and recognize their own "rackets" (a term Landmark copyrighted when used in this context). As one consultant for Landmark explained to University of Southern California professor David C. Logan:

> We might, for example, have a persistent complaint that we are undervalued, underappreciated, or underpaid in the work environment <u>and a fixed way of being</u> associated with that complaint... [W]e suggest that such fixed ways of beings, and decisions and conclusions, while understandable, are often contradictory to our own best interests -- and may be a bit self-indulgent. When we think we're undervalued we sometimes feel as if we are victims of the "system," that we deserve sympathy, and we are certainly not to blame for things that may go wrong.
>
> ...
>
> Just as individuals construct such self-defeating views, whole groups, or departments[,] have similar dynamics that are counter-productive to the purposes they serve. Their performance then becomes characterized by low satisfaction, low productivity, little or no self-expression.

Once participants become aware of these "rackets," they could move beyond them and learn to construct their lives anew, free from the personal, ideological, and institutional constraints of the past. Now, a dialogue on teamwork or union-management cooperation or any other issues was possible, and the consultants turned to facilitating that dialogue and spreading it to include as many people as possible.

The process begun with the Voice of Magma spread to all facets of company operations and even to other locations. As more and more workers attended the "Leadership for Our Future" workshops, the Landmark consultants became a quasi-permanent fixture at the company, so much so that they developed and ran a series of workshops modeled after the Voice of Magma for the Tintaya mines after the purchase had been completed. The company could not have one group of workers developing new work routines while similar workers at other parts of the company used older, less efficient practices.

With the continued success of the Voice of Magma process and the development of these new projects, Magma Copper itself decided to get involved in the consulting business. Together with King, Chapman & Broussard and Landmark Education Business Development, it formed a consulting group called Industrial Transformation. Magma, in part, made the consultants a permanent presence in the company, but it also made itself a permanent part of their operations as well. After all, Magma was now one of their most successful clients, a client each was eager to show off to other potential clients, and so it was understandable that Magma wanted to participate in the process of spreading its success to other companies and unions.

VI. Gainsharing at Magma and the rewards to workers

Once the massive enrollment began in late 1989 at the SunSpace meetings, the joint relationship quickly began to take on a life that none of its originators could have imagined. Projects started pouring forth from workers and managers on the shopfloor, projects that were much more extensive and far-reaching that any of the participants had initially hoped for. Many of the union leaders knew that a great deal of the workers' insights and thinking had for too long been ignored, but none foresaw how quickly those efforts would lead to increased productivity nor how far-reaching those efforts reached into long-standing practices.

To begin, there was a direct benefit to most workers from the joint relationship, namely fatter paychecks. Soon after the team-building meetings in late 1989 and early 1990, efforts began to provide a mechanism whereby the productivity gains resulting from the employees' contributions would lead to monetary gains to those employees. These "gainsharing" plans, as they were called, involved complicated legal and production questions. It was difficult enough to measure how productive any single operation was and the costs involved in maintaining that operation, but now the company was attempting to track the productivity and costs associated with each particular change in the production process as well as accounting for variations in equipment, ore, and available supplies. Workers and managers from each division joined with consultants who had expertise in such accounting to develop cost calculations for considering all these factors within each division. Depending on the division, through these gainsharing plans workers received sometimes as much as 40% of the productivity gains arising from their efforts. In late 1991, the first checks started arriving in workers' mailboxes, and in 1992 after some fine-tuning and still more productivity gains workers received on average around $4,700.

Each part of the company developed its own plan. This way, the incentive to improve production within the immediate work environment was strongest. No one division could ride on the coat-tails of another. As a result, there were separate plans for the smelter and refinery operations, the various underground mines, and the several mine operations at San Manuel, Pinto Valley, Superior, and Robinson. Such separate plans were needed because each was tied to what workers did in their particular operation. A "gain" existed when results exceeded cost, productivity, and safety goals for that division. No kind of general incentive plan could have worked given how distinct each of these operations were. What union and management representatives wanted in these gainsharing plans, after all, was not for employees to work harder but to work smarter.

Because of this focus on working smarter, the gainsharing plans were not necessarily effective for all kinds of work within the company. Starting in 1992, productivity gains from work redesign became more difficult in the mines and as a result the gainsharing bonuses began declining. When BHP purchased the company, the gainsharing plans for the mine had all but disappeared, and an attempt to rebuild the plan by BHP ran out of time when the company closed the mine. For the refining and smelting divisions within the company the gainsharing plan was always in effect. For these workplaces, machinery and technology dominated the work process, and so the jobs were much more amenable to efforts by the workers to change them. Mining, on the other hand, consisted essentially of digging and moving earth, and so it was difficult to keep finding better work practices.

Workers gained in other ways from their efforts as well. As with any mining operation, only so much copper could be produced before the mine was emptied of copper. The San Manuel underground mine only had enough estimated copper ore to last a few more years, and in 1988 company management was planning to shut down those mining operations completely and supply smelting and refining processes with concentrate imported from other facilities and even other companies. The pilot project with the Kalamazoo ore body and the resulting increased productivity, however, convinced investors to fund expansion of the underground mine into the as yet untapped Kalamazoo property. The new techniques developed in the Kalamazo made the mining of this ore profitable despite the much greater quality ore available in foreign mines such as in Chile or in the less labor-intensive strip mining operations of a competitor such as Phelps Dodge. As a result, the opening of this mine could have extended the life of the operations at Magma well into the first decade of the twentieth century. The workers not only gained larger paychecks from their efforts, but they also saw that they lengthened the time that work would be available to them well beyond what anyone had thought possible. Indeed, almost all the observers inside and outside the company agreed that despite the premature closure of the mine by BHP, without the opening of mining operations in the Kalamazoo property Magma would have been closed much sooner than it eventually was. Moreover, however faint the hope currently is, the existence of the Kalamazoo mine at least suggests that the underground mine may possibly start up again in the future.

Finally, workers and managers could see their new relationship in the changing organization of company operations. Refining and smelter operations -- Magma Metals -- went through a radical transformation that eventually saw not only the organizational structure of the division but the very appearance of the place transformed. Here, committees of union and company representatives coordinated not only production, maintenance, budget, and technology for the smelter, converters, refinery, and rod plants but also marketing, financial planning, and internal development. As a company publication remarked, here were union officials "actively involved in the management of the company." Moreover, workers and managers were now working together in a greatly simplified decision-making process as three levels replaced the previous eight. Work redesign needed the effort and energy of as many people as possible in order to be successful, and it offered in return not only greater job security because of Magma's greater competitiveness but also personal growth through the responsibilities and participation employees gained. As John Warne, rod plant furnace operator explained, "The layers of management were too numerous for communication to flow to and from the workforce. We had to combine, condense, or eliminate those layers. We also saw an opportunity to operate as a team based organization so that each team or layer had the leadership necessary to be functionally involved, not dictating. Another key learning was that employees like myself could learn and understand the business and make informed decisions to make improvements."

These breakthrough projects were only a part of the transformation occurring at Magma. Literally, hundreds of work teams sprung up around company operations. Cross-training so that workers could handle multiple jobs became commonplace across a wide range of work units. Team meetings over coffee and donuts for discussing new approaches and processes became the norm. Supervisors no longer spent their days making sure work was done or correcting mistakes from "malicious obedience" but instead followed up on the ideas their teams had suggested to see what was feasible right now and what would take more planning.

Naturally, industrial relations witnessed several kinds of improvements. Throughout 1990 and 1991, as union and management officials moved to a joint relationship the number of grievances dropped considerably. By 1992, company and union representatives sought to formalize the importance of the joint relationship in handling grievances through a series of memoranda that spelled out how employees could turn to a variety of problem-solving techniques rather then immediately turning to the grievance process. This initial problem-solving would involve just the employee and supervisor in resolving disputes and the five-day time limit for filing a grievance was now waived if the dispute could not be resolved. That latter concern became less of an issue as problem-solving techniques gained employees' acceptance.

A. The joint process at BHP

The most serious obstacle to the joint relationship occurred when Burgess Winter announced to the company's managers and employees that it was being bought by the Australian conglomerate Broken Hill Proprietary Co. (BHP). The deal was a huge bonanza for stockholders, as BHP paid a premium for the copper mining company.

The deal offered several potential benefits. BHP was one of the largest mining companies in the world, with operations in a variety of ores including precious metals, iron, and coal as well as copper. These mining operations were scattered at dozens of places throughout the world. In addition, BHP also possessed an extensive steelmaking and plate-making operations as well as oil refining operations. The addition of Magma to BHP's already existing copper operations made BHP the largest privately owned copper mining company in the world. Magma became a division within BHP, appropriately titled BHP Copper-North America. As a result, copper operations became a significant part of the company at a time when copper prices were rising rapidly and copper profits were soaring.

Magma appealed to BHP because of the unique workplace arrangements that had developed between the unions and company. The joint relationship was factored into the price BHP paid for Magma Copper, with some estimating it added nearly $300 million to the purchase price. One of Burgess Winter's main responsibilities as the new head of all of BHP Copper was to help spread that joint relationship to the rest of the BHP Copper operations outside of North America. Winter and BHP executives believed that the addition of a joint relationship into the reorganization of BHP's combined mining operations could lead to a productive capacity far beyond what existed at any mining operation in the world.

Most of the union people involved in the joint relationship were shocked, however, when the purchase of Magma by BHP was announced. Many described feeling betrayed by Winter personally because he had largely kept the buy-out discussions secret despite the obvious importance that buy-out meant to the joint relationship. As one union official explained, he should have been told about the negotiations as a matter of courtesy. The requirement that the negotiations be secret so as to avoid allegations of insider trading did not jibe with him because he knew that such information should not be disclosed, that he could not use it for his own profit, and that after all those years of working together the company should have trusted him enough to do what was right. The surprise of the announcement immediately disclosed to many of the top union leaders that the trust behind the joint relationship only went so far. While many still remained committed to the joint relationship, that commitment was no longer as open-ended and as obliging as it had been.

Not only were many union personnel no longer as positive about the joint relationship as they had been, but Winter also discovered that BHP managers were not as excited about the effort as well. In June of 1996, Winter held a meeting for his management team at Vail, Colorado which was modeled after the 1993 Voice of Magma meetings that had devised the company charter. This meeting was not the success that Winter had hoped it would be. First, without the presence of unions at this meeting the idea of a joint relationship rang hollow for many of the managers present. Those managers had been with BHP for years, even decades, and had been successful during that time without any joint relationship with their unions. The absence of unions from these meeting only confirmed to them how unnecessary unions were to their efforts at improving the company. Second, work and productivity was currently going well in the other parts of the company and a sudden decline in copper prices seemed only a temporary problem for a small group of managers in the company. As a result, there was no imperative to suddenly change procedures and adopt something new. Established routines and practices could continue and would serve these vice-presidents and division heads quite well.

With that meeting in Colorado mostly a failure, by the end of 1996 Winter was gone from the company, and indeed, throughout 1997 and into 1998 several of the key managers integral to the formation of the joint relationship had also either resigned or were in the process of leaving, including Marsh Campbell, the co-chair of the JUMCC. What Winter and his cohorts discovered was that, while BHP executives were anxious in developing the joint relationship for the resulting productivity gains, they still maintained a demanding requirement that any projects or ideas to be implemented first needed to be cleared by company officials to assess that concept against basic cost-accounting principles. That requirement became an imperative when the bottom fell out of the price of copper. Profits from copper disappeared, and corporate executives in Australia became quite concerned over eliminating any "extra" expenses. Workers and managers at San Manuel began to refer to this requirement as "clearing it with Melbourne," as Melbourne, Australia was the location of the corporate headquarters of BHP. Indeed, BHP maintained a satellite hook-up between its headquarters in Melbourne and all of its operational sites to facilitate this kind of communication. This requirement to check in with the corporate headquarters made a mockery of the joint relationship. Where before company and union officials could decide themselves about how to redesign a work process, now they only developed a proposal that was scrutinized by managers half the world away for cost-effectiveness.

Another problem for the workers at Magma was the end of open communication with company management. Soon after the purchase, Winter invited one of the Board of Directors from BHP, J. K. Ellis, to attend a Voice of Magma quarterly meeting. Ellis informed those attending that the company could no longer offer an open door to employees regarding general production, strategic, and financial information. Neither could Winter, when pressed at that meeting, make any kind of guarantee that he could continue to provide information of which he was in control.

BHP's concern for improving cost-effectiveness arose not only from an apprehension over productivity but also from the new, enlarged debt of the company. Because of the large premium BHP paid for Magma, workers and managers at BHP North America now found themselves saddled with an extraordinary amount of debt to cover as part of their production costs. Estimates of that debt indicated that the cost of every pound of copper produced by the company now had an added 17 to 19 cents from the interest payments on BHP's debt.

The joint relationship was not entirely forgotten after the BHP purchase. Workers and managers integral to the development of the joint process began a process of visiting other BHP facilities throughout the world and even non-BHP facilities as word of their program spread. They offered a concise description of how union and company personnel had joined together, of the resulting rapid gains in productivity, and assisted the mid-level managers at these facilities in developing their own joint programs. Within BHP they became a kind of ambassador for the change process within its various divisions or even to other companies interested to learning from Magma the keys to its success. Indeed, some of the people leading these seminars had previously been some of the consultants who had helped originate the joint relationship at Magma, and with the demise of BHP they have again become consultants helping facilities inside and outside BHP develop their own joint effort. Such efforts, however, were largely tactical -- meant to resolve some labor-management crisis -- and have yet to achieve the kind of company-wide strategic focus originally done at Magma.

Moreover, within Magma's facilities the joint relationship continued to function to some extent for the handling of disputes and for increasing production in some of the facilities, such as the refinery and smelter. As BHP's tenure proceeded, however, the scope of these efforts declined from what had previously been attempted, and became little more than minor enhancements for making the workplace more comfortable. Anything more expansive required "clearing it with Melbourne."

Despite the growing problems over the joint relationship, in 1997 it proved to be a significant benefit to the company's employees when the first new negotiations over wages and benefits under the fifteen year agreement began. Hourly wages and benefits among Magma's employees had fallen behind what workers at other copper companies were earning, and the employees wanted significant increases to bring them in line with the rest of the industry. BHP quickly ceded to the workers demands because the record productivity gains over the last five years would make an extremely strong case for even higher wage increases if the unions brought the matter to an arbitrator -- an option available under the labor agreement.

This collective-bargaining gain for the employees signaled the nearly complete return to a traditional collective bargaining relationship at Magma. With managers receiving no formal or even informal rewards for cooperating with their employees they no longer had any incentive to be creative. Only when there existed a direct relationship between the employees and their immediate manager did cooperation continue. So, union officials switched gears and pushed to maximize their own gains through collective bargaining rather than working together with company officials. Just as BHP headquarters in Melbourne was "beating" on the workers to increase their production, so now union officials would "beat" on the company to increase employees' take-home pay, benefits, and pensions. So, beginning in 1996, the number of grievances being filed began to increase to the point when the president of Local 937 was handling as many grievances as before the joint relationship had ever existed. And, union officials, realizing the long-term future of the company was now in jeopardy, made sure to include in the 1997 labor agreement benefits that would protect workers in case of the mine's closure. While the company and the unions were not involved in the kind of war they had been in 1989, the joint relationship was largely at an end.

BHP managers had other problems to deal with than just unhappy workers at Magma. The continuing decline in profits at BHP raised the ire of investors, resulting in new corporate management being installed in 1997 and again in 1999 in an effort to drive costs down even further and reverse the company's sagging profits. But, in the face of continued weakness in world copper prices, profits from the mining operation remained weak. As a result, in July 1999, all North American copper operations were closed after initial attempts to find a buyer for the mines proved unsuccessful. At the end of 1999, the SX-EW extraction process was still being used for the remaining ore on the surface and the refinery was still processing this ore, but all operations in the open pit and underground mines had been halted.

VII. Overall conclusions

When the 1989 labor agreement was signed, the two sides believed they had narrowly avoided a repeat of the violence of the Phelps Dodge strike. Whether the company and its jobs were still safe were guesses, however, nothing more. When those same union and company representatives committed to a fifteen year labor agreement just two years later, almost everyone was sure that the company was going to survive. Unfortunately, what they could not foresee was the addition of a new party to the relationship, a new company that necessarily did not accept the important of employees in company decision-making. While many had hopes that BHP's purchase of Magma would allow for the expansion of what had occurred there not only to other parts of that company but to other companies as well, such wishes were only wishes. BHP could not relinquish the control executives had and trust employees to exercise managerial authority, and so what had made Magma so successful slowly disappeared.

BHP continues operations despite the closing of the Magma Copper facilities and BHP's exit from the copper mining business in North America. And, surprisingly BHP has not given up on joint process practices. Its latest annual statement for example discusses how the company is being redesigned in light of heavy losses over the past two years -- $2.3 billion in 1999 and $1.47 billion in 1998 (Australian dollars). Part of that redesign included the creation of a corporate charter that makes "'creating shareholder value' the principal goal" of the company. Such a charter assists company employees in assuming responsibility for the profitability of the company, and that as a consequence the company would place greater "emphasis on risk management, commercial outcomes[,] and shareholder value." This kind of joint process, unfortunately, rings hollow when compared to what had previously existed at Magma Copper. Magma executives had been quite concerned about profits and shareholder value, but they were also deeply concerned about the people working for the company.

Not only did the charter documents arising from the Voice of Magma and other efforts reflect an abiding concern for people doing the work but they made those people the central concern of the company. BHP has yet to learn that lesson.